

## 2020-2021 Academic Catalog

The San José State University's catalog is the official source for Mission and Institutional Learning Goals, Policies and Procedures, Majors and Programs, and Course Descriptions. Students are encouraged to utilize the catalog in planning their path to graduation.

### About

San José State University  
The California State University  
Programs and Services  
Faculty & Administration

### Archived Catalogs

Are you looking for a different catalog?  
Visit the Archived Catalogs section to  
view previous catalogs.

### What's New?

For a list of changes to programs  
and policies and new courses and  
programs in the academic  
catalog, visit the What's New?  
Page.

### Quick Links

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Policies & Procedures | College of Graduate Studies | General Education Requirements  
College of Business | Education | Engineering | Health and Human Sciences | Humanities & the Arts |  
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## What are Catalog Rights?

**Undergraduate Students:** Students may elect to satisfy degree requirements for a different Catalog Year for Graduation Requirements. Talk to your adviser about your Undergraduate Catalog Rights.

**Graduate Students:** Students who, since gaining Classified Graduate Standing status, have maintained continuous enrollment, may elect to satisfy the degree requirements in effect at the time of gaining Classified Graduate Standing status or at the time of completing their degree requirements.

### Helpful Links:

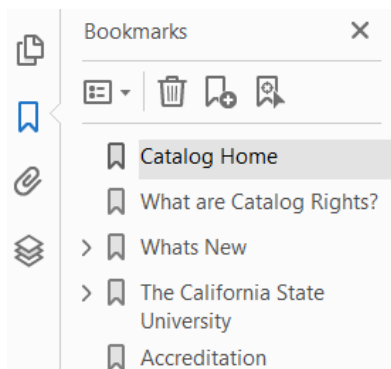
Archived Catalogs | Catalog Icon Guide | Disclaimer

MyProgress | MyRoadmap | MyGPS | MyPlanner | MyScheduler

*MyGPS: Graduation Pathway to Success*

A suite of technology tools available to help you plan.

Also, check out California Promise, a program to help frosh graduate in four years and transfers in two.



## Navigation

Utilize the Bookmarks tool to navigate throughout the catalog.

The navigation in this PDF does not match the navigation of the online catalog found at [catalog.sjsu.edu](http://catalog.sjsu.edu) and does not include all links or editorial updates made after June 4, 2020.

For any questions or concerns, contact [curriculum@sjsu.edu](mailto:curriculum@sjsu.edu).

## What's New?

- Organizational Changes
- New Degrees
- New Concentrations
- New Minors
- Revisions to Existing Programs
- Updates for the General Education Program
- Revisions to Existing Courses
- New Courses

## Organizational Changes

- The Department of Justice Studies will be transferred to the College of Social Sciences (formerly College of Health and Human Sciences). Effective July 1, 2020.
- The Recreation and Nature Minor was transferred from the Department of Environmental Studies to the Department of Public Health and Recreation. Effective July 1, 2020.
- The Department of Public Health and Recreation changed its name (formerly Department of Health Science and Recreation). Effective November 1, 2019.

## Programs

### New Degrees (6)

- Artificial Intelligence, MS
- Art History and Visual Culture, BA (degree elevated from a concentration in the Art, BA)
- Counseling and Guidance, MA (degree elevated from a concentration in the Education, MA)
- Data Analytics, MS (new offering in regular session or state support)
- Data Science, MS
- Educational Leadership, Concentration in Emancipatory School Leadership, MA (degree elevated from a concentration in the Educational, MA )

### New Concentrations (3)

- Forensic Science, Digital Evidence Concentration, BS
- Public Health, Concentration in Community Health Education, BS
- Public Health, Concentration in Population Data Science, BS

### New Minors (8)

- Aerospace Engineering Minor
- Ceramic Art Minor

- Comparative U.S. Race and Ethnic Relations Minor
- Digital Media Art Minor
- Digital Media for Mass Communications Minor
- Interaction Design Minor
- Pictorial Art Minor
- Sculpture Minor

## Revisions to Existing Programs (110+)

While over 110 existing programs were revised, the following program revisions are significant:

- Applied Mathematics, Applied and Computational Mathematics Concentration, BS (reduce total degree requirements by 3 units)
- Art, Studio Practice Concentration, BA (reduces units and reflect current course offering in department)
- Art, Studio Practice Concentration (Preparation for Teaching), BA (reflect current course offering in department)
- Computer Engineering, MS (increase total units required to 33 units)
- English, BA (major revisions to create a core coursework for all English BA students)
- English, Creative Writing Concentration, BA (major revisions to create a core coursework for all English BA students)
- English, Preparation for Teaching (Single Subject), BA (major revisions to create a core coursework for all English BA students)
- English, Professional and Technical Writing Concentration, BA (major revisions to create a core coursework for all English BA students)
- General Engineering, BS (major revisions required coursework to reflect industry needs)
- High-Speed and Intercity Rail Management Certificate (Graduate) (formerly "High-Speed Rail Management Certificate)
- Mindfulness-Based Health and Human Services Certificate (Graduate) (formerly "Mindfulness Based Occupational Therapy" Certificate, reduce units to 9 units)
- Nursing, BS (The curriculum redesign will reduce the total program length from 6 semesters to 5 semesters to meet the 2025 CSU graduation mandate, enhance courses with evidence-based practice, include newly required content, and incorporate Area Z NURS 100WE)
- Nursing, RN to BSN Concentration, BS (separate the two cohorts of students (advanced placement students and pre-licensed students) to ensure quality education is being provided based on the students experiences and needs; a seperate track is created for online students)
- Public Health, BS (major revisions to create a core coursework for all Public Health BS students; *discontinue* the concentration in **Health Services Administration**)
- Software Engineering, MS (increase total units required to 33 units)
- Spanish, MA (increase total units required to 32 units)

## General Education Program

The Writing Skills Test (WST) has been temporarily suspended. See Writing Across the Curriculum WST website for more information.

If any student takes one or more Area R, S, and V courses in the Spring 2020 semester (regardless of whether the student chooses to receive a grade or opts for Credit/No Credit), the requirement for a minimum aggregate 2.0 GPA in R, S, and V courses will be waived.

## New Courses by General Education Core and SJSU Studies Areas

### **GE Core Area B4. Scientific Inquiry and Quantitative Reasoning**

LING 26 - Quantitative Reasoning in Linguistic Diversity

MATH 10D - Probability, Data Science, Ethics, and You

MATH 10P - Mathematics in Politics

MATH 30X - Calculus I (MATH 30 with support; Students repeating MATH 30 or MATH 30X are not eligible for MATH 30, but may take MATH 30X and MATH 30W.)

MATH 31X - Calculus II (MATH 31 with support; Students repeating MATH 31 or MATH 31X are not eligible for MATH 31, but may take MATH 31X and MATH 31W.)

MATH 32X - Calculus III (MATH 32 with support; Students repeating MATH 32 or MATH 32X are not eligible for MATH 32, but may take MATH 32X and MATH 32W.)

MATH 71X - Calculus for Business and Aviation (MATH 71 with support; Students repeating MATH 71 or MATH 71X are not eligible for MATH 71, but may take MATH 71X and MATH 71W.)

### **GE Core Area C1. Arts**

TA 55 - Intro to Design for Theatre (effective fall 2019)

### **GE Core Area C2. Letters**

ITAL 1A - Elementary Italian

ITAL 1B - Elementary Italian

### **GE Core Area D2. Comparative Sciences**

HIST 1A - World History to 1500

### **GE Core Area E. Human Understanding & Development**

NUFS 10 - Basic Life Skills

### **SJSU Studies Area S. Self, Society & Equality in the U.S.**

HIST 185 - LGBTQ+ History in the United States

NURS 178 - Leadership III

NURS 178A - Leadership

### **SJSU Studies Area Z. Written Communication II**

FS 100W - Forensic Science Writing Workshop

NURS 100WE - Evidence Based Practice Writing Workshop

## Courses

## Revisions to Existing Courses (400+)

While over 400 existing courses were revised, the following course revisions are significant:



- All courses in the Department of Public Health and Recreation with the subject "HS" for "Health Science" were revised to the "PH" subject for "Public Health"
- JS 146 - Guns and the Law (change in course number - formerly JS 196)
- PH 102 - Health Team Building (change in course number - formerly HS 25)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR (change in course number - formerly MATH 133A)
- MATH 33LA - Differential Equations and Linear Algebra (change in course number - formerly MATH 123)
- MATH 39 - Linear Algebra I (change in course number - formerly NURS 129A)
- MATH 250 - Mathematical Methods for Data Visualization (change in course number - formerly MATH 253)
- SCED 273 - Secondary School Science (change in course number - formerly SCED 173)

## New Courses (127)

### Business

- BUS 200L - Leadership Communication
- BUS 225Q - Tax Practicum
- BUS 265P - Silicon Valley Experience for Professionals
- MTM 260 - Project Management in Transportation

### Education

- CHAD 138 - K-8 Student Teaching and Seminar

### Engineering

- AE 112W - AE Structural Analysis I Problem-Solving Workshop
- AE 138W - Vector-Based Dynamics Problem-Solving Workshop
- AE 160W - Aerodynamics I Problem-Solving Workshop
- AE 164W - Aerothermodynamics Problem-Solving Workshop
- AE 251 - Structural Vibrations for Aerospace Applications
- BME 133 - Programming Applications in Biomedical Engineering
- BME 135 - Biomedical Engineering Design Methods
- BME 187 - Medical Device Quality Systems
- BME 217 - Experimental and Computational Biofluid Mechanics
- BME 298 - MS Project
- BME 298I - Masters Project Internship
- CE 104 - Introduction to GIS in Civil Engineering
- CHE 110A - Mathematical Methods in Chemical Engineering
- CHE 110B - Computational Methods in Chemical Engineering
- CHE 133 - Sustainable Engineering
- CHE 137 - Pollution Control Engineering
- CHE 178 - Smart Sensors and Biosensors
- CHE 280 - Graduate Research
- CHE 280I - Graduate Research Internship

- CHE 298I - MS Research/Project Internship
- CMPE 185 - Autonomous Mobile Robots
- CMPE 249 - Intelligent Autonomous Systems
- CMPE 252 - Artificial Intelligence and Data Engineering
- CMPE 260 - Reinforcement Learning
- CMPE 286 - Internet of Things
- CMPE 297 - Special Topics in Computer/Software Engineering
- ENGR 101 - Engineering Seminar
- ENGR 199A - Senior Design Project I
- ENGR 199B - Senior Design Project II
- MATE 193 - Special Topics in Materials Characterization Lab
- MATE 280 - Graduate Research
- MATE 280I - Graduate Research Internship
- TECH 174 - Blockchain Technology and Applications
- TECH 175 - Industrial Internet of Things (IIoT)
- TECH 176 - Machine Learning Technology and Applications

## Health and Human Sciences

- FS 100W - Forensic Science Writing Workshop (*Z*)
- NUF5 10 - Basic Life Skills (*E*)
- The Nursing, BS (Prelicensure) and Nursing, RN to BSN Concentration, BS developed a new curriculum. Students with catalog rights to previous academic years will continue to progress towards their degree using the old curriculum.
  - NURS 10 - Leadership I (Formerly NURS 33 and NURS 34A; new course combines content from both courses into one course)
  - NURS 11 - Introduction to Pharmacology (Formerly NURS 43)
  - NURS 12 - Health Assessment & Skills I (Formerly NURS 53)
  - NURS 20A - Adult Care Management I (Formerly NURS 24)
  - NURS 20B - Adult Care Clinical Practicum I (Formerly NURS 44)
  - NURS 22 - Health Assessment & Skills in Nursing II (Formerly NURS 54)
  - NURS 100WE - Evidence Based Practice Writing Workshop (*Z*) (For Nursing, BS (Prelicensure) students)
  - NURS 123A - Mental Health Theory (Formerly NURS 127A)
  - NURS 123B - Mental Health Practicum (Formerly NURS 147A)
  - NURS 164A - Community Health Theory (Formerly NURS 127B)
  - NURS 164B - Community Health Practicum (Formerly NURS 147B)
  - NURS 165A - Child Health Theory (Formerly NURS 126A)
  - NURS 165B - Child Health Practicum (Formerly NURS 146A)
  - NURS 167A - Adult Care Management II (Formerly NURS 125)
  - NURS 167B - Adult Care Clinical Practicum II (Formerly NURS 145)
  - NURS 168A - Maternal Newborn Theory (Formerly NURS 126B)
  - NURS 168B - Maternal Newborn Practicum (Formerly NURS 146B)
  - NURS 170 - Evidence-Based Practice (Formerly NURS 128)
  - NURS 171 - Theoretical Foundations (Formerly NURS 124)
  - NURS 172 - Community Health Theory (Formerly NURS 127B)
  - NURS 173 - Community Health Practicum (Formerly NURS 147B)
  - NURS 177 - Senior Preceptorship (Formerly NURS NURS 148A for Nursing, BS (Prelicensure) students)

- NURS 177A - Senior Preceptorship (S) (Formerly NURS NURS 148A for Nursing, RN to BSN Concentration, BS students)
- NURS 178 - Leadership III (Formerly NURS NURS 138 for Nursing, BS (Prelicensure) students)
- NURS 178A - Leadership (S) (Formerly NURS NURS 138 for Nursing, RN to BSN Concentration, BS students)
- PH 99 - Introduction to Public Health
- PH 165A - Public Health Leadership Series I
- PH 165B - Public Health Leadership Series II
- PH 165C - Public Health Leadership Series III
- PH 183 - Special Topics in Community Health Education
- PH 193 - Special Topics in Population Data Science
- PH 225 - Evaluation Methods for Public Health Practice
- SCWK 200W - Social Work Graduate Writing Course (GWAR)

## Humanities and the Arts

- ART 109 - Web Development in HTML, CSS and JavaScript
- ENGL 111 - Writing Online: Strategic Digital Content and Social Media
- LING 167 - Multilingualism and Language Contact
- LING 26 - Quantitative Reasoning in Linguistic Diversity (B4)
- MUSC 65 - Concert Band
- MUSC 165 - Concert Band
- PHIL 9W - Mathematics & Logic for General Education Workshop
- PHIL 289 - Graduate Proseminar
- PR 195 - Strategic Sport Communication and Media
- PR 197 - Introduction to Corporate Internal Communication
- TAG 25A - Intermediate Tagalog I
- TAG 25B - Intermediate Tagalog II

## Professional and Global Education

- DATA 225 - Database Systems for Analytics
- DATA 228 - Big Data Technologies and Applications
- DATA 230 - Data Visualization
- DATA 240 - Data Mining and Analytics
- DATA 245 - Machine Learning Technologies
- DATA 250 - Large Scale Data Analytics
- DATA 255 - Deep Learning Technologies

## Science

- BIOL 138 - Stem Cell Biology
- BIOL 139 - Cancer Biology
- CS 1290R - Culminating Experience Supervision
- CS 168 - Blockchain and Cryptocurrencies

- CS 42X - Discrete Mathematics (CS 42 with support; Students repeating CS 42 or CS 42X are not eligible for CS 42, but may take CS 42X and MATH 42W.)
- MATH 1010DS - Support Course for MATH 10D
- MATH 10D - Probability, Data Science, Ethics, and You (B4)
- MATH 10P - Mathematics in Politics (B4)
- MATH 18WB - Trigonometry Workshop
- MATH 30X - Calculus I (B4)
- MATH 31X - Calculus II (B4)
- MATH 32X - Calculus III (B4)
- MATH 34 - Ordinary Differential Equations
- MATH 42X - Discrete Mathematics (MATH 42 with support; Students repeating MATH 42 or MATH 42X are not eligible for MATH 42, but may take MATH 42X and MATH 42W.)
- MATH 71X - Calculus for Business and Aviation (B4)
- MATH 267A - Statistical Programming with R
- MTED 280 - Research in Math Education
- MTED 281A - Seminar in Postsecondary Mathematics Teaching I
- MTED 281B - Seminar in Postsecondary Mathematics Teaching II
- MTED 281C - Seminar in Postsecondary Mathematics Teaching III
- PHYS 297 - Directed Research

## Social Sciences

- ECON 103A - Introduction to Econometrics and Research Methods
- ECON 103B - Econometric Methods
- ENVS 122 - Borderlands and the Environment
- HIST 185 - LGBTQ+ History in the United States (S)
- POLS 181C - Internship Capstone

# The California State University

- A Tradition of Excellence for More than Five Decades
- Facts
- Governance
- CSU Historical Milestones
- CSU Trustees
- Office of the Chancellor
- CSU Campuses

Welcome to the California State University (CSU) - the nation's largest comprehensive university system with 23 unique campuses serving approximately 482,000 students and employing more than 53,000 faculty and staff.

Each year, the university awards more than 127,000 degrees. CSU graduates are serving as leaders in the industries that drive California's economy, including business, agriculture, entertainment, engineering, teaching, hospitality and healthcare. Learn more at [www.calstate.edu](http://www.calstate.edu).

## A Tradition of Excellence for More than Six Decades

Since 1961, the CSU has provided an affordable, accessible, and high-quality education to more than 3.8 million graduates throughout California. While each campus is unique based on its curricular specialties, location and campus culture, every CSU is distinguished for the quality of its educational programs. All campuses are fully accredited, provide a high-quality broad liberal educational program and offer opportunities for students to engage in campus life through the Associated Students, Inc., clubs and service learning. Through leading edge programs, superior teaching and extensive workforce training opportunities, CSU students graduate with the critical thinking skills, industry knowledge and hands-on experience necessary for employment and career advancement.

## Facts

- Today, one of every 20 Americans with a college degree is a CSU graduate.
- 1 of every 10 employees in California is a CSU graduate.
- The CSU awards about half of the bachelor's degrees earned in California.
- The CSU awards 41% of California's nursing degrees.
- The CSU is the leading provider of teacher preparation programs in the state.
- In 2018-19, the CSU awarded nearly 20,000 business degrees and more than 6,700 engineering degrees.
- The CSU offers more than 140 fully online and 120 hybrid degree programs and concentrations.
- The CSU offers more than 4,750 online courses per term, providing more educational options to students who may prefer an online format to a traditional classroom setting.
- The CSU's online concurrent enrollment program gives students the ability to enroll in courses offered by other campuses in the CSU.
- Over a recent four year period, the CSU has issued nearly 50,000 professional development certificates in education, health services, business and technology, leisure and hospitality, manufacturing, international trade and many other industries.
- CSU Centers for Community Engagement and Service Learning make available more than 3,100 service learning courses.

- More than 67,000 students participate in, contributing more than 1.1 million hours of service each year.
- For every \$1 that the state invests in the CSU, the university generates \$5.43 for California's economy

## Governance

The CSU is governed by the Board of Trustees, most of whom are appointed by the governor and serve with faculty and student representatives. The CSU Chancellor is the chief executive officer, reporting to the Board. The campus presidents serve as the campus-level chief executive officers. The Trustees, Chancellor and presidents develop university-wide educational policy. The presidents, in consultation with the CSU Academic Senate and other campus stakeholder groups, render and implement local policy decisions.

## CSU Historical Milestones

The individual California State Colleges were established as a system with a Board of Trustees and a chancellor in 1960 by the Donahoe Higher Education Act. In 1972, the system was designated as the California State University and Colleges, and in 1982 the system became the California State University. Today, the CSU is comprised of 23 campuses, including comprehensive and polytechnic universities and, since July 1995, the California State University Maritime Academy, a specialized campus.

The oldest campus-San José State University-was founded in 1857 and became the first institution of public higher education in California. The newest-California State University Channel Islands-opened in fall 2002, with freshmen arriving in fall 2003.

In 1963, the CSU's Academic Senate was established to act as the official voice of CSU faculty in university-wide matters. Also, the California State College Student Presidents Association - which was later renamed the California State Student Association - was founded to represent each campus student association on issues affecting students.

Through its many decades of service, the CSU has continued to adapt to address societal changes, student needs and workforce trends. While the CSU's core mission has always focused on providing high-quality, affordable bachelor's and master's degree programs, over time the university has added a wide range of services and programs to support student success - from adding health centers and special programs for veterans to building student residential facilities to provide a comprehensive educational experience.

To improve degree completion and accommodate students working full- or part-time, the educational paradigm was expanded to give students the ability to complete upper-division and graduate requirements through part-time, late afternoon, and evening study. The university also expanded its programs to include a variety of teaching and school service credential programs, specially designed for working professionals.

In 2010, in an effort to accommodate community college transfer students, the CSU, in concert with the California Community Colleges (CCC), launched the Associate Degree for Transfer (ADT), which guarantees CCC transfer students with an ADT admission to the CSU with junior status. ADT has since proven to be the most effective path to a CSU for transfer students.

Always adapting to changes in technology and societal trends to support student learning and degree completion, the CSU launched CourseMatch, which enables CSU students to complete online courses at other CSU campuses, expanding enrollment opportunities and providing more educational opportunities for students who may prefer an online format to a traditional classroom setting.

The CSU marked a significant educational milestone when it broadened its degree offerings to include doctoral degrees. The CSU independently offers Doctor of Education (Ed.D.), Doctor of Physical Therapy (DPT), Doctor of Audiology (AuD) and Doctor of Nursing Practice (DNP) degree programs. Additionally, the CSU was recently

authorized to offer the independent Doctor of Occupational Therapy (OTD). A limited number of other doctoral degrees are offered jointly with the University of California and private institutions in California.

The CSU strives to continually develop innovative programs, services and opportunities that will give students the tools they need to meet their full potential. In 2016, the university launched Graduation Initiative 2025, a bold plan to support students, increase the number of California's graduates earning high-quality degrees and eliminate achievement and equity gaps for all students. Through this initiative, the CSU is ensuring that all students have the opportunity to graduate according to their personal goals, positively impacting their lives, families and communities.

By providing an accessible, hands-on education that prepares graduates for career success, the CSU has created a network of alumni that is so extensive and renowned that it spans across the globe. As of 2019-20, more than 3.8 million CSU alumni are making a difference in the lives of the people of California and the world.

## CSU Trustees

### Ex Officio Trustees

The Honorable Gavin Newsom  
Governor of California

The Honorable Eleni Kounalakis  
Lieutenant Governor of California

The Honorable Anthony Rendon  
Speaker of the Assembly

The Honorable Tony Thurmond  
State Superintendent of Public Instruction

Dr. Timothy P. White  
Chancellor of the California State University

### Officers of the Trustees

The Honorable Gavin Newsom - President  
Adam Day - Chair  
Lillian Kimbell - Vice Chair  
Andrew Jones - Secretary  
Steve Relyea - Treasurer

### Appointed Trustees

Appointments are for a term of eight years, except student, alumni, and faculty trustees whose terms are for two years. Terms expire in the year in parentheses. Names are listed alphabetically.

Silas Abrego (2021)  
Larry L. Adamson (2020)  
Jane W. Carney (2022)  
Adam Day (2023)

Rebecca D. Eisen (2020)  
Douglas Faigin (2025)  
Debra S. Farar (2022)  
Jean P. Firstenberg (2018)  
Wendy Fong (2024)  
Juan Garcia (2020)  
Maryana Khames (2021)  
Lillian Kimbell (2024)  
Jeffrey Krinsk (2027)  
John "Jack" McGrory (2023)  
Hugo N. Morales (2020)  
Romey Sabalius (2019)  
Lateefah Simon (2019)  
Christopher J. Steinhauser (2026)  
Peter J. Taylor (2021)

Correspondence with trustees should be sent to: c/o Trustees Secretariat, The California State University, 401 Golden Shore, Long Beach, California 90802-4210.

## Office of the Chancellor

### **The California State University**

401 Golden Shore  
Long Beach, California 90802-4210  
(562) 951-4000

Dr. Timothy P. White - Chancellor  
Mr. Steve Relyea - Executive Vice Chancellor and Chief Financial Officer  
Dr. Loren J. Blanchard - Executive Vice Chancellor, Academic and Student Affairs  
Mr. Andrew Jones - Executive Vice Chancellor, General Counsel  
Mr. Garrett P. Ashley - Vice Chancellor, University Relations and Advancement  
Ms. Evelyn Nazario - Vice Chancellor, Human Resources  
Mr. Larry Mandel - Vice Chancellor and Chief University Auditor

## CSU Campuses

### **California State University, Bakersfield**

9001 Stockdale Highway  
Bakersfield, CA 93311-1022  
Dr. Lynnette Zelezny, President  
(661) 654-2782  
[www.csub.edu](http://www.csub.edu)

### **California State University, Channel Islands**

One University Drive  
Camarillo, CA 93012  
Dr. Erika D. Beck, President  
(805) 437-8400  
[www.csuci.edu](http://www.csuci.edu)



**California State University, Chico**

400 West First Street  
Chico, CA 95929  
Dr. Gayle E. Hutchinson, President  
(530) 898-4636  
[www.csuchico.edu](http://www.csuchico.edu)

**California State University, Dominguez Hills**

1000 East Victoria Street  
Carson, CA 90747  
Dr. Thomas A. Parham, President  
(310) 243-3696  
[www.csudh.edu](http://www.csudh.edu)

**California State University, East Bay**

25800 Carlos Bee Boulevard  
Hayward, CA 94542  
Dr. Leroy M. Morishita, President  
(510) 885-3000  
[www.csueastbay.edu](http://www.csueastbay.edu)

**California State University, Fullerton**

800 N. State College Boulevard  
Fullerton, CA 92831-3599  
Mr. Framroze Virjee, President  
(657) 278-2011  
[www.fullerton.edu](http://www.fullerton.edu)

**Humboldt State University**

1 Harpst Street  
Arcata, CA 95521-8299  
Dr. Tom Jackson, Jr., President  
(707) 826-3011  
[www.humboldt.edu](http://www.humboldt.edu)

**California State University, Long Beach**

1250 Bellflower Boulevard  
Long Beach, CA 90840-0115  
Dr. Jane Close Conoley, President  
(562) 985-4111  
[www.csulb.edu](http://www.csulb.edu)

**California State University, Los Angeles**

5151 State University Drive  
Los Angeles, CA 90032  
Dr. William A. Covino, President  
(323) 343-3000  
[www.calstatela.edu](http://www.calstatela.edu)

**California State University Maritime Academy**

200 Maritime Academy Drive  
Vallejo, CA 94590 Rear Admiral Thomas A. Cropper, President  
(707) 654-1000  
www.csum.edu

**California State University, Fresno**

5241 North Maple Avenue  
Fresno, CA 93740  
Dr. Joseph I. Castro, President  
(559) 278-4240  
www.csufresno.edu

**California State University, Monterey Bay**

100 Campus Center  
Seaside, CA 93955-8001  
Dr. Eduardo M. Ochoa, President  
(831) 582-3000  
www.csUMB.edu

**California State University, Northridge**

18111 Nordhoff Street  
Northridge, CA 91330  
Dr. Dianne F. Harrison, President  
(818) 677-1200  
www.csun.edu

**California State Polytechnic University, Pomona**

3801 W. Temple Avenue  
Pomona, CA 91768  
Dr. Soraya M. Coley, President  
(909) 869-7659  
www.cpp.edu

**San Francisco State University**

1600 Holloway Avenue San Francisco, CA 94132  
Dr. Lynn Mahoney, President  
(415) 338-1111  
www.sfsu.edu

**San José State University**

One Washington Square  
San José, CA 95192-0001  
Dr. Mary A. Papazian, President  
(408) 924-1000  
www.sjsu.edu

**California State University, Sacramento**

6000 J Street  
Sacramento, CA 95819  
Dr. Robert S. Nelsen, President  
(916) 278-6011  
[www.csus.edu](http://www.csus.edu)

**California State University, San Bernardino**

5500 University Parkway  
San Bernardino, CA 92407-2318  
Dr. Tomás D. Morales, President  
(909) 537-5000  
[www.csusb.edu](http://www.csusb.edu)

**San Diego State University**

5500 Campanile Drive  
San Diego, CA 92182  
Dr. Adela de la Torre, President  
(619) 594-5200  
[www.sdsu.edu](http://www.sdsu.edu)

**California Polytechnic State University, San Luis Obispo**

One Grand Avenue  
San Luis Obispo, CA 93407  
Dr. Jeffrey D. Armstrong, President  
(805) 756-1111  
[www.calpoly.edu](http://www.calpoly.edu)

**California State University San Marcos**

333 South Twin Oaks Valley Road  
San Marcos, CA 92096-0001  
Dr. Ellen J. Neufeld, President  
(760) 750-4000  
[www.csusm.edu](http://www.csusm.edu)

**Sonoma State University**

1801 East Cotati Avenue  
Rohnert Park, CA 94928  
Dr. Judy K. Sakaki, President  
(707) 664-2880  
[www.sonoma.edu](http://www.sonoma.edu)

**California State University, Stanislaus**

One University Circle  
Turlock, CA 95382  
Dr. Ellen N. Junn, President  
(209) 667-3122  
[www.csustan.edu](http://www.csustan.edu)

# Accreditation

San José State University is accredited by the WASC Senior College and University Commission (WSCUC) - 985 Atlantic Avenue, Suite 100, Alameda, CA 94501, 510-748-9001, one of the six major regional college accreditation agencies in the United States; the California State Board of Education; and by a number of other agencies in special fields. The Teacher Education programs of the University also are accredited by the National Council for Accreditation of Teacher Education and approved by the California Commission on Teacher Credentialing.

- **Art and Design** - National Association of Schools of Art and Design (NASAD)
- **Advertising** - Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
- **Audiology** - Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) - [Candidacy Status only]; Accreditation Commission on Audiology Education (ACAE) - [Developing Status only]
- **Business** - Association to Advance Collegiate Schools of Business International (AACSB)
- **Chemistry** - American Chemical Society, Committee on Professional Training (ACS-CPT)
- **Computer Science** - Accreditation Board for Engineering and Technology (ABET)
- **Dance** - National Association of Schools of Dance (NASD)
- **Dietetics** - Accreditation Council for Education in Nutrition and Dietetics (ACEND)
- **Education** - California Commission on Teacher Credentialing (CTC)
- **Engineering** - Accreditation Board for Engineering and Technology (ABET) [Aerospace, Biomedical, Chemical, Civil, Computer, Electrical, Industrial and Systems, Materials, and Mechanical]
- **Industrial Technology** - Association of Technology, Management, and Applied Engineering (ATMAE)
- **Journalism** - Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
- **Kinesiology** - Commission on Accreditation of Athletic Training Education (CAATE) [Undergraduate]
- **Library and Information Science** - American Library Association (ASA)
- **Music** - National Association of Schools of Music (NASM)
- **Nursing** - California Board of Registered Nursing and Commission on Collegiate Nursing Education (CCNE)
- **Nutrition and Food Science** - Accreditation Council for Education in Nutrition and Dietetics (ACEND)
- **Occupational Therapy** - Accreditation Council for Occupational Therapy Education of American Occupational Therapy Association (AOTA)
- **Psychology** - Board of Behavioral Sciences
- **Public Administration** - National Association of Schools of Public Affairs and Administration (NASPAA)
- **Public Health** - Council on Education for Public Health (CEPH)
- **Public Relations** - Accrediting Council on Education in Journalism and Mass Communications (ACEJMC)
- **Recreation** - Council on Accreditation of Park, Recreation, and Tourism Related Professions; Council for Higher Education
- **Social Work** - Council on Social Work Education (CSWE)
- **Speech-Language Pathology** - Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAAASLP)
- **Theatre Arts** - National Association of Schools of Theatre (NAST)
- **Urban and Regional Planning** - Association of Collegiate Schools of Planning, Inc.; Planning Accreditation Board (PAB)

## Programs & Services

- Academic Advising and Pre-Admissions Counseling
- Academic Success Centers
  - Academic Counseling Center for Excellence in the Social Sciences (ACCESS)
  - Engineering Student Success Center (ESSC)
  - Humanities and the Arts Student Success Center (HASSC)
  - Jack Holland Student Success Center (formerly BSAC)
  - Lurie College of Education Student Success Center (LCOE)
  - Science Advising Center, College of (COSAC)
  - Student Success Center (CHHS)
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- Educational Opportunity Program (EOP)
- Emergency Information
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- Financial Assistance
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- Health Services
- Honors
- Housing
- International House
- Institutional Assistance
- ID - SJSU ID and Password
- IT Help Desk
- Library
- MyProgress Report
- one.sjsu.edu (formerly My.SJSU.edu)
- Organized Research and Training Units (Centers, Institutes, Collaboratives)
- Parking Permits
- Peer Connections
- Pre-Professional Study
- Pre-Law Programs
- Pre-Medical Programs
- Service Learning
- Student Government
- Student Organizations
- Study Abroad and Away Programs
- Testing Office
- Tower Card
- Transfer Advising
- Transportation Alternatives
- Research - Office of Research
- Undergraduate Admission Counseling
- Veterans Educational Benefits
- Writing Center

# Academic Advising and Pre-Admissions Counseling

Academic Advising ensures academic success and graduation in a timely manner. Undergraduates will have two types of academic advisors: a general education academic advisor and an advisor in the major department. Both types of academic advisors assist you with selecting courses and developing a plan for fulfilling SJSU requirements or choosing major requirements.

## Advising Hub

[www.sjsu.edu/advising](http://www.sjsu.edu/advising)

## Declared Majors

Major department

## Declared Minors

Minor department

## College Advising Centers

Academic Counseling Center for Excellence in the Social Sciences (ACCESS)  
Engineering Student Success Center (ESSC)  
Humanities and the Arts Student Success Center (HASSC)  
Jack Holland Student Success Center (formerly BSAC)  
Lurie College of Education Student Success Center (LCOE)  
Science Advising Center, College of (COSAC)  
Student Success Center (CHHS)

## Undeclared and Undeclared-PreNursing Majors

Academic Advising and Retention Services  
Student Services Center  
408-924-2129

## Special Majors

Office of Undergraduate Education  
ADM 159  
408-924-2447

## Double Majors

Major departments

## Interdisciplinary Studies Graduate Majors

College of Graduate Studies  
ADM 229  
408-924-2427

## International Student and Scholar Services (ISSS)

Student Union  
408-924-5931

### **Second Baccalaureate**

Major departments

## **General Education Academic Advising**

- Academic planning
- Academic Advising for undeclared students
- General Education Academic Advising for all undergraduates
- Probation and disqualification advising for all undergraduate majors
- Assistance with interpreting your Degree Progress Report (MyProgress).
- After the Late Registration period, process late drop and withdrawal petitions.
- Note: Students are strongly encouraged to ensure the accuracy of their Degree Progress Report (MyProgress) at least one year prior to graduation.

### **Academic Advising and Retention Services**

Student Services Center  
408-924-2129  
[www.sjsu.edu/aars](http://www.sjsu.edu/aars)

## **Academic Success Centers**

### **Academic Counseling Center for Excellence in the Social Sciences (ACCESS)**

Academic Counseling Center for Excellence in the Social Sciences (ACCESS) is the student success center for the College of Social Sciences (CoSS). Both current CoSS students and those students interested in minoring or majoring in a social sciences degree program are encouraged to see an advisor at ACCESS for general education advising, graduation support, and/or help with changing majors. We provide both drop-in advising and appointments. We also offer career counseling and tutoring in both social sciences statistics and writing.

**Clark Hall 240**  
408-924-5363  
[www.sjsu.edu/access/](http://www.sjsu.edu/access/)

### **Engineering Student Success Center (ESSC)**

The Engineering Student Success Center provides advising services and student success programming for undergraduate and graduate students in the College of Engineering. We offer both drop-in advising and appointments.

**Engineering Building 116**  
408-924-3990  
[www.engr.sjsu.edu/students/essc](http://www.engr.sjsu.edu/students/essc)

## **Humanities and the Arts Student Success Center (HASSC)**

The Humanities and Arts Student Success Center, located in Clark Hall, provides academic advising services to all students with majors and minors in the College of the Humanities and the Arts. Services include university requirements advising which encompasses general education, academic planning support, career advising and career exploration events, and mentoring to undergraduate students.

H&A Spartans are highly encouraged to proactively meet with our professional advisors for guidance on developing successful pathways toward graduation. H&A Spartans are also encouraged to study in our office, learn more about the majors and minors in our College, and participate in our scheduled activities including workshops and networking events.

**Clark Hall 244**  
408-924-5095  
[www.sjsu.edu/ha-advising/](http://www.sjsu.edu/ha-advising/)

## **Jack Holland Student Success Center (formerly BSAC)**

The Jack Holland Student Success Center, located on the garden level of the Boccardo Business Center, provides advice to students about undergraduate business courses and programs. Prospective students are encouraged to talk with advisors about requirements for business major and general education courses. Prospective graduate students are encouraged to meet a graduate advisor in the Graduate Program Office in the Business Tower.

## **Business Tutoring Center**

The Tutoring Center gives individual and group assistance to business students seeking subject matter tutoring. It is located on the ground level of the Boccardo Business Center.

**Boccardo Business Center (BBC) 008**  
408-924-3435  
[www.sjsu.edu/lcobssc/](http://www.sjsu.edu/lcobssc/)

## **Lurie College of Education Student Success Center (LCOE)**

The Lurie College of Education Student Success Center provides a range of activities including academic advising, professional development workshops, mentoring, networking events, and access to university, college, and career resources.

All current LCOE undergraduate and graduate students, and students interested in learning more about majors and minors in Education, are encouraged to come by the Center to meet with an advisor, participate in our scheduled activities, or to utilize the study space.



**Sweeney Hall 106**

408-924-2700

[luricollege-successcenter@sjsu.edu](mailto:luricollege-successcenter@sjsu.edu)

[www.sjsu.edu/education/studentsuccesscenter](http://www.sjsu.edu/education/studentsuccesscenter)

## Science Advising Center, College of (COSAC)

The College of Science Advising Center is located in Duncan Hall, Room 212. COSAC provides general education advising, academic advising for lower division Biology, Chemistry and Computer Science majors and other advising and student success services for students in the College of Science.

COSAC offers Change of Major workshops for students that would like to change into a Biology, Chemistry or Computer Science major. In addition, we process Chemistry Minor applications for students interested in adding a Chemistry minor. We also provide tutoring for many of our lower division and some upper division courses.

**Duncan Hall (DH) 212**

408-924-5193

[www.sjsu.edu/cosac/](http://www.sjsu.edu/cosac/)

## College of Health and Human Sciences (CHHS) Student Success Center (SSC)

The College of Health and Human Sciences (CHHS) Student Success Center (SSC) provides advising for undergraduate students majoring or wanting to major in programs offered in CHHS Departments and Schools.

All CHHS students and students interested in a CHHS major are invited to stop by the Center for advising. The Center's services include general education advising, help with changing majors, academic policy related questions, meeting with peer mentors, peer tutoring, and/or attending various regularly scheduled presentations and workshops. Looking for academic advice or maybe just some tips about how to navigate your way around SJSU? Check out the CHHS Student Success Center! It's also a great place to meet, study, and learn. Laptop computers are also available for use in our Center.

**Contact the CHHS Student Success Centers at:**

**MacQuarrie Hall (MH) 533**

408-924-2910

**Health Building (HB) 105**

408-924-8601

[CHHSsuccesscenter@sjsu.edu](mailto:CHHSsuccesscenter@sjsu.edu)

[www.sjsu.edu/chhs-ssc](http://www.sjsu.edu/chhs-ssc)

## Accessible Education Center (AEC)

AEC facilitates the delivery and referral of services for students with disabilities. Students who register and create a confidential file with AEC can receive a wide spectrum of services based on individualized needs. AEC recommends students submit an application through MyAEC prior to registering for classes; however, students can register

anytime during the semester with the AEC. Access to MyAEC can be found on AEC's home page. Accommodations and services include, but are not limited to the following:

## Center for Accessible Technology (CAT)

Students registered with the AEC receive individual training in the use of assistive technology and have access to an open lab located in The Center for Accessible Technology (MLK 230).

## Curriculum Accommodations

An array of academically related services is provided on a case-by-case basis for students with verified disabilities to support curriculum requirements. Accommodations include but are not limited to: accessible technology, alternative media, notetaking, sign language interpreters and test accommodations.

## Deaf and Hard of Hearing (DHOH)

The DHOH Program provides Educational Sign Language Interpreters or Real-Time Educational Captioners for students who are Deaf or Hard of Hearing. Eligibility for this service is determined by the Deaf and HOH Coordinator and is based in part on the professional documentation provided by the student.

## Registration Priority

As noted in University Policy, F17-4, priority registration is provided to assist students to manage their disability related limitations in consideration of their course schedule.

### Accessible Education Center

ADM 110  
408-924-6000  
[www.sjsu.edu/aec](http://www.sjsu.edu/aec)  
[aec-info@sjsu.edu](mailto:aec-info@sjsu.edu)

## Bursar's Office

### Cashiering

- Collect payments owed to the university
- Cash, check, money order transactions, and international wire payments
- Post alternative loans

### Account Specialists

- Approve and disburse emergency loans

- Conduct entrance and exit interviews for Perkins Loan, Kuhlman Loan and California Dream Loan
- Provide financial counseling
- Make payment arrangements for debts owed to the university
- Process financial petitions requesting reversal of fees
- Manage third-party agreements with agencies and departments paying student fees
- Process stop payment on university-issued checks

## Online Services - MySJSU

- Students can pay online by e-Check or credit card. (There is a fee to pay by credit card.)
- Sign-up for the monthly payment plan.
- Sign-up for Direct Deposit to receive electronic refunds.
- Designate an authorized user to be able to contact the Bursar's Office to discuss the student's account
- Access the 1098-T tax form.

## Student Accounts

- Provide student account information

## Tower Card

- Provide SJSU identification cards for students
- Administers the Gold Points program

### **Bursar's Office**

Student Services Center  
408-924-1601  
[www.sjsu.edu/bursar](http://www.sjsu.edu/bursar)  
[bursar@sjsu.edu](mailto:bursar@sjsu.edu)

## Career Center

Preparing for the college-to-career transition starts the moment you arrive on campus. Engage with us to discover career interests, get motivated to pursue your degree, build skills and experience, and find career opportunities open only to Spartans.

### **Career Readiness**

- Major and career exploration resources
- Personalized career coaching from master-level career counselors with industry experience to guide you on your career journey
- Strategies to build career experience through on- and off-campus roles.
- Job- and internship-search resources to help you land a great opportunity
- Graduate study preparation resources

### **Career Opportunities**

- SJSU Handshake, the job and internship database, with thousands of new opportunities posted each month for SJSU students
- Career fairs, networking events, and interviews with top employers to help you stand out from the crowd

**Services are available to:**

- Currently enrolled SJSU students
- SJSU alumni who purchase a Career Center annual membership

**Find the Career Center at:**

Administration Building (ADM) 154/255 (accessible)  
408-924-6031  
careercenter@sjsu.edu  
www.sjsu.edu/careercenter  
sjsu.joinhandshake.com

## Counseling and Psychological Services (CAPS)

Professionally trained multi-culturally sensitive staff provides confidential counseling services to enrolled SJSU students. Responding to the many pressures and demands facing students at different times, CAPS offers confidential counseling; groups and workshops; crisis intervention services; resource referral and consultation; and outreach presentations. The private offices in CAPS support an atmosphere of safety and confidentiality between a counselor and a student.

### Personal/Psychological Counseling

Counselors can work with you to improve your mood, decrease your anxiety, increase your skills in handling stress, improve your skills in relationships, and help you make better decisions. Our professional staff includes licensed psychologists, professional clinical counselors, social workers, marriage family therapists and advanced doctoral-level clinical trainees supervised by licensed professionals.

### Educational Counseling

CAPS Educational Programs provides students with life skills that promote academic success. Our program assist students in navigating the University by informing them of SJSU resources and policies, and serving as a bridge to personal counseling to help students' overall well-being.

Each semester, CAPS Life Skills Workshops and groups are offered to help students become more successful at SJSU.

### Outreach Service

Our professional counselors offer a variety of presentations on topics of interest to campus organizations and student groups free of charge. Outreach services also include tabling, interviews, and supportive debriefs for the campus community.

### Groups

Groups are a great way for students to connect with peers, learn new skills and strategies, and grow both emotionally and educationally! We offer numerous types of groups that get students interacting and connecting to help each other.

## Suicide Prevention Training

We provide learning opportunities for gaining knowledge, skill, and awareness in suicide and mental health crisis and intervention (e.g. QPR, Mental Health First Aid, and ASIST). All trainings are free and open to all SJSU members.

### **Counseling and Psychological Services (CAPS)**

Student Wellness Center, 3rd Floor, Room 300B  
408-924-5910  
[www.sjsu.edu/counseling](http://www.sjsu.edu/counseling)

## Educational Opportunity Program (EOP)

Applicants who are low-income, and who would be the first generation in their family to earn a baccalaureate degree, are encouraged to apply online through CSU Apply for consideration in the Educational Opportunity Program. For more information see <http://www.calstate.edu/apply>.

### **EOP (Educational Opportunity Program)**

Clark Hall  
408-924-2637  
[www.sjsu.edu/eop](http://www.sjsu.edu/eop)  
[educational.opportunity.program@sjsu.edu](mailto:educational.opportunity.program@sjsu.edu)

## Emergency Information

Dial 911 from any on-campus or pay phone (or 408-924-2222 from mobile phones) to report a crime in progress or any life-threatening police, fire or medical emergency.

### **Bluelight Phones**

Bluelight emergency phones are located throughout the campus grounds and inside buildings, elevators and in parking lots and garages. Bluelight phones connect to University Police 24 hours a day and can be used to report emergencies or request an evening safety escort, shuttle ride or motorist assistance. Depending on the location, Bluelight phones are activated by either pressing a call button or picking up the phone receiver.

### **Non-Emergency and General Information**

To report crimes not in progress, general concerns or request information, contact University Police at 408-924-2222 or visit UPD in the first floor of the University Police Building 24 hours a day.

### **Alert-SJSU Notifications and Major Emergency Information**

Alert-SJSU is the campus emergency notification system that provides information about what to do and where to go during a natural disaster or lifethreatening emergency. To register or update alert settings (most students are already automatically registered), sign in to MySJSU, select Alert-SJSU and enter your contact phone numbers and e-mail

addresses. For more information during a major emergency, call 408-924-SJSU and not University Police (unless you are reporting a crime in progress or a life-threatening emergency).

## Facilities Unique to SJSU

- **Africana Center** functions both as a library resource center and a community center, with the goals of scholarship, leadership, and community responsibility about and for Africana people, a term that refers to all people of African descent. The Africana Center supports and sponsors programs and scholarship specific to Africana life, history and culture.
- **Art Foundry**, located one mile south of campus, provides facilities for casting and fabricating large-scale sculptures in bronze, aluminum, iron and steel as well as work in stone and other materials.
- **Asian American Resource Center** is a place to study, research, gather and connect to SJSU. Community members bridge the gap between SJSU and the rich history and contributions of Asian-Americans to this region.
- **Aviation Facility** provides hands-on aviation operation and maintenance experience from its classroom, laboratory and hanger facility at Reid-Hillview Airport.
- **Biological Sciences Research Collections** include entomology, herpetology, vertebrate and invertebrate museums and the Carl Sharsmith Herbarium.
- **The Bloomberg Lab** at the Lucas College of Business houses fifteen Bloomberg Terminals providing hands-on experience with the industry standard investment research platform. Supports the investment course and finance course modules, as well as the student managed Spartan Investment Fund.
- **Chicano Resource Center** provides a single locus for books, periodicals, reference tools, pamphlets and clippings relating to Mexican- American history, culture and community.
- **Electro-Acoustical Studios** offer undergraduate music students access to digital synthesizers.
- **Engineering Laboratories** are state-of-the-art, the result of a \$41 million project supported by many of the nation's leading high technology corporations.
- **The Hammer Theatre** is a city-owned venue operated by the university. The Hammer offers dynamic, diversified performing arts, educational, and technology related programming.
- **Ira F. Brilliant Center for Beethoven Studies** is the only research facility and document repository in North America dedicated solely to the study of the life and performance of the works of Ludwig van Beethoven.
- **Phyllis Forward Simpkins International House** is a large residence hall, located one block from campus, that is home to overseas and U.S. students interested in widening their international experience.
- **Journalism Laboratories** include the newsroom and advertising offices of the Spartan Daily, the studios of television's Update News, and the production room of the student magazine, Access, that provide applied experience in specific media.
- **Moss Landing Marine Laboratories** provides access to the geologically and biologically important Monterey Bay Canyon and to some of the world's richest ocean and salt marsh research areas.
- **Science Education Resource Materials Center** makes available to student teachers educational aids for science classes, including live fauna and geological models.
- **Speech and Hearing Center** is an on-campus multilingual audiology and speech pathology community clinic.
- **Timpany Center** is owned by Santa Clara County and operated by the Department of Kinesiology in collaboration with other schools/departments within the College of Health and Human Sciences to provide internships/research opportunities in health and physical activity for those with disability, older populations, and the obese.

## Financial Aid and Scholarships

The Financial Aid and Scholarships Office awards federal, state and local grants, loans and scholarships. Start by filing the federal Free Application for Federal Student Aid (FAFSA). Eligible AB540 students (undocumented immigrant status) may qualify for state grant programs by completing the CA Dream Application. Both applications are available beginning on October 1 for the next academic year and the priority filing deadline is March 2. The priority deadline is March 2 of every year. You must apply every year to be considered for financial aid for the following academic year. By completing the process, we establish your financial need. Need is the difference between a typical student budget and what you and your family are expected to pay. Aid is awarded via:

**Grants:** Since grants generally do not have to be repaid, grants typically are awarded to undergraduate students with the greatest need. SJSU distributes the Federal Pell Grants, Federal Supplemental Educational Opportunity Grants (SEOG), Federal Teacher Education Assistance for College and Higher Education (TEACH) Grant; California Grants A, B; Middle Class Scholarship (MCS), the State Graduate Fellowship, Educational Opportunity Program (EOP), Graduate Professional Business, Ed.D Program - Educational Leadership Grant, Spartan Completion Grant and the State University Grants.

**Loans:** Loans can be helpful, but they must be repaid. If you must borrow, limit the amount to what you really need. It may seem nice now, but you will be repaying the funds, with interest, after you leave school. SJSU awards the following loan type: Kuhlman Loan, a loan program funded from the estate of a generous alumna. Also, loans are awarded through the federal government for the Federal Direct Stafford Subsidized and Unsubsidized Loans and Federal Plus Loans (for parents of college students). In addition, graduate students are eligible to borrow through the Federal Graduate Plus Loan Program, CA Dream Loans are available to students who complete the CA Dream Application and meet eligibility criteria.

**Scholarships:** Apply online. The Scholarship Office has information to assist you with your scholarship search.

**Work Study:** Rather than take loans, the Federal Work-Study program allows students to work part-time while learning job skills. There are both on-campus and off-campus job listings for qualified students.

**Fee Deferrals:** Once you have submitted all requested documents, a fee deferral will be assigned to your record to hold your classes and delay the payment of registration fees while your financial aid process is completed. To prevent enrollment cancellation, it is your responsibility to submit all requested documents prior to the scheduled fee payment deadline. Be sure to monitor your account at MySJSU for file status changes and "To Do" items. Financial Aid fee deferrals are temporary and are issued once all requested financial aid documents are submitted.

### **Financial Aid and Scholarships**

Student Services Center  
408-283-7500  
[www.sjsu.edu/faso](http://www.sjsu.edu/faso)

## **Financial Assistance**

The following information concerning student financial assistance may be obtained from the Director of Financial Aid and Scholarships, Student Services Center, 408-283-7500:

- A description of the federal, state, institutional, local, and private student financial assistance programs available to students who enroll at San José State University;
- For each aid program, a description of procedures and forms by which students apply for assistance, student eligibility requirements, criteria for selecting recipients from the group of eligible applicants, and criteria for determining the amount of a student's award;
- A description of the rights and responsibilities of students receiving financial assistance, including federal Title IV student assistance programs, and criteria for continued student eligibility under each program;

- The satisfactory academic progress standards that students must maintain for the purpose of receiving financial assistance and criteria by which a student who has failed to maintain satisfactory progress may reestablish eligibility for financial assistance;
- The method by which financial assistance disbursements will be made to students and the frequency of those disbursements;
- The terms of any loan received as part of the student's financial aid package, a sample loan repayment schedule, and the necessity for repaying loans;
- The general conditions and terms applicable to any employment provided as part of the student's financial aid package;
- The responsibility of San José State University for providing and collecting exit counseling information for all student borrowers under the federal student loan programs; and
- The terms and conditions for deferral of loan payments for qualifying service under the Peace Corps Act, the Domestic Volunteer Service Act of 1973, or comparable volunteer community service.

## Health Services

The Student Health Center provides quality, convenient, affordable medical care and health promotion to any registered SJSU student. Primary care is covered by your registration fees. Additional services (some laboratory tests, immunizations, procedures, pharmacy, and specialty visits) are available at a nominal fee. Contact the Student Health Center for fee information.

### **Student Wellness Center**

The Student Wellness Center houses the Student Health Center, Counseling and Psychological Services, Wellness and Health Promotion, a pharmacy, a lactation room, and a variety of other services. Also housed within the SWC is the Student Affairs Case Manager who assists students who are in distress or crisis-see.

(Across from the Event Center)  
408-924-6122  
[www.sjsu.edu/studenthealth/](http://www.sjsu.edu/studenthealth/)

### **Wellness and Health Promotion**

Wellness and Health Promotion, under the Student Health Center, provides workshops, coordinates outreach events, and hosts activities in the Wellness Lounge, where students can access many services to support their well-being.

Student Wellness Center 101  
408-924-6280  
[www.sjsu.edu/wellness](http://www.sjsu.edu/wellness)

### **Appointments**

408-924-6122

## Honors

The university recognizes outstanding academic achievement of its students through a variety of different honors.

## Departmental



Students who have completed an approved departmental honors program receive "honors at graduation" as distinct from "university honors at graduation." The following departments offer departmental honors programs (for details see under each department in the university course catalog).

- Aviation
- Biological Sciences
- Business
- Chemistry
- Child Development
- Communication Studies
- Computer Science
- Economics
- English
- Environmental Studies
- Geography
- Geology/Earth Science
- History
- Journalism and Mass Communications
- Mathematics
- Music
- Political Science
- Psychology
- Sociology
- Theatre Arts

## President and Dean Scholars

Each spring the Honors Convocation recognizes and encourages superior undergraduate academic achievement of President's and Deans' Scholars. There are two levels of Honors Scholars:

- **President's Scholars:** Any undergraduate student who has earned a 4.0 grade point average at San Jose State University during Fall or Spring terms.
- **Deans' Scholars:** Any undergraduate student who has earned a 3.65 or higher grade point average at San Jose State University during Fall or Spring terms.

The minimal load allowed for the award of academic honors is the student's full program of graded courses or 12 units, CR (Credit) grades are not counted toward the calculation of the grade point average nor toward the 12 unit minimum. Only SJSU courses for which grades are posted, including the clearance of incompletes made during that time period, shall be used.

Recognition of these Honors Scholars through the Honors Convocation was inaugurated at the university in 1962 by the three honor societies - Phi Kappa Phi, Sigma Xi and the Phi Beta Kappa Faculty Club. It is currently under the sponsorship of the University Honors and Honors Programs Committee.

Note. Certain grades are not counted for honors: credit by examination, "overseas" grades, extension courses, "credit" grades and incompletes. Designation as a President's or Dean's Scholar does not apply to second baccalaureate, credential or graduate students.

## Outstanding Graduating Senior Awards

Announced each year at Commencement by the University President, the Outstanding Graduating Senior Awards recognize exceptional scholarship and service to the university and community based on the following criteria:

- An overall cumulative GPA of at least 3.75;
- Significant demonstrated SJSU leadership area(s) of university life and/or;
- Significant contributions to the welfare of the university and/or the community, and/or;
- Evidence of a high level of intellectual, artistic, or academic accomplishment, and/or personal contribution as an undergraduate student;
- At least one professional nomination letter submitted by a SJSU faculty or staff member.

To be considered for this honor, visit the Student Affairs website at [www.sjsu.edu/studentaffairs](http://www.sjsu.edu/studentaffairs) and follow the link for Outstanding Graduating Senior Awards or contact the Office of the Vice President for Student Affairs at 408-924-5900.

## University Honors at Graduation

Criteria used to determine honors at graduation are those in effect as of the date of graduation. Honors at graduation are only bestowed upon undergraduates (as described in University Policy, S17-13).

Summa Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.85.

Magna Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.70.

Cum Laude is awarded to those undergraduate students achieving a cumulative grade point average in all university and college work and a cumulative grade point average in all work undertaken at SJSU of not less than 3.50.

## Housing

SJSU's residence halls and apartments provide you with a great opportunity to transition into university life. Living on campus is a great way to connect with the academic, social, and cultural aspects of our campus. Immerse yourself in study groups, clubs, athletic events and social activities for the total on-campus living experience!

Visit the University Housing website for more information and to fill out an online application.

## Housing License Agreement

University Housing Services strives to create a residential community that supports and enhances academic success, fosters the learning and development of our students, and promotes student involvement and civic engagement. As a department, our practices promote efficiency, operational effectiveness and fiscal responsibility.

Freshman On-Campus Housing Requirements

For more information related to campus housing policies and requirements, refer to the Housing website.

### University Housing Services

408-795-5600  
www.housing.sjsu.edu  
uhs-frontdesk@sjsu.edu

## Institutional Assistance

Information concerning the **cost of attending** San José State University is available from the Director of Budget Services, 408-924-1660, and includes tuition and fees; the estimated costs of books and supplies; estimates of typical student room, board, and transportation costs; and, if requested, additional costs for specific programs.

Information concerning the **refund policies** of San José State University for the return of unearned tuition and fees or other refundable portions of institutional charges is available from the Bursar's Office, Student Services Center, 408-924-1601.

Information concerning **policies regarding Federal Title IV student assistance funding** and return of those funds as required by regulation is available from the Financial Aid and Scholarship Office, Student Services Center, 408-283-7500.

Information regarding **facilities and services** available to students with disabilities may be obtained from the Director of the Disability Resource Center, 408-924-6000.

Information concerning San José State University **policies, procedures, and facilities** for students and others to report criminal actions or other emergencies occurring on campus may be obtained from University Police, 408-924-2222.

Information concerning San José State University **annual campus security report** may be obtained from Chief, University Police, 408-924-2172.

Information concerning the **prevention of drug and alcohol abuse and rehabilitation programs** may be obtained from the Director of Student Health Center, 408-924-6122.

Information regarding **student retention and graduation rates** at San José State University and, if available, the number and percentage of students completing the program in which the student is enrolled or has expressed interest may be obtained from the Office of Undergraduate Education or the College of Graduate Studies, 408-924-2447.

Information concerning **athletic opportunities** available to male and female students and the financial resources and personnel that San José State University dedicates to its men's and women's teams may be obtained from the Director of Compliance, 408-924-1514.

Information concerning **teacher preparation programs** at San José State University, including the pass rate on teacher certification examinations, may be obtained from Credential Services, 408-924-3541.

Information concerning **grievance procedures** for students who feel aggrieved in their relationships with the university, its policies, practices and procedures, or its faculty and staff may be obtained from the Ombudsperson, Administration 269, 408-924-5995.

The federal Military Selective Service Act (the "Act") requires most males residing in the United States to present themselves for registration with the **Selective Service System** within thirty days of their eighteenth birthday. Most males between the ages of 18 and 25 must be registered. Males born after December 31, 1959, may be required to submit a statement of compliance with the Act and regulations in order to receive any grant, loan, or work assistance under specified provisions of existing federal law. In California, students subject to the Act who fail to register are also ineligible to receive any need-based student grants funded by the state or a public postsecondary institution. Selective Service registration forms are available at any U.S. Post Office, and many high schools have a staff

member or teacher appointed as a Selective Service Registrar. Applicants for financial aid can also request that information provided on the Free Application for Federal Student Aid (FAFSA) be used to register them with the Selective Service. Information on the Selective Service System is available and the registration process may be initiated online at [www.sss.gov](http://www.sss.gov).

## International House

The SJSU International House is home to 72 U.S. and international students attending SJSU. Residents come from approximately 30 countries including the U.S. and enjoy outstanding facilities including fully-equipped computer room, wireless internet access throughout the building, study room, grand and upright pianos, spacious living and dining rooms, sports equipment and games. I-House staff promotes cross-cultural learning and communication, encouraging active participation in a wide variety of programs and activities.

I-House meets the on-campus living requirement for freshman.

Visit the I-House website for more information and an application.

### **SJSU International House**

360 South 11th Street  
San José, CA 95112-2217  
408-924-6570  
[www.sjsu.edu/ihouse](http://www.sjsu.edu/ihouse)  
[ihouse@sjsu.edu](mailto:ihouse@sjsu.edu)

## Library

The Dr. Martin Luther King, Jr. Library, an innovative collaboration that integrates the collections, services and staffs of two major institutions: The SJSU University Library and the San José Public Library is a unique learning and community center where the entire Silicon Valley Community--students, faculty, and residents--can learn for life. The combined collections include more than 1.5 million items and the building houses 33 delightful public art installations.

### **King Library**

408-808-2000  
[www.sjlibrary.org](http://www.sjlibrary.org)

## one.sjsu.edu (formerly My.SJSU.edu)

One.SJSU.edu formerly MySJSU is the primary website for important transactions between students and the campus.

- Applicants can access information sent to them by the admissions offices (Undergraduate Admissions & Outreach and GAPE) by logging in to check application status and view messages.
- Admitted and enrolled students can view their enrollment appointment start date and time for registration.
- Admitted and enrolled students can register for classes.
- Admitted and enrolled students can search for open sections of classes.
- Admitted and enrolled students can print their own class schedule.
- Admitted and enrolled students pay fees online.

- Undergraduates can view their degree progress using MyProgress.
- Continuing and former students can print grades from Spring 1991 to the present.

## ID - SJSU ID

A SJSU ID is assigned to all students. To protect your privacy, this SJSU ID replaces the use of Social Security Number for most SJSU transactions.

This number cannot be changed.

New students receive this information via admission office communications.

See SJSU ID, also Tower Card

## SJSU ID Password

Use your password to access One.SJSU.edu on the web along with your SJSU ID. MySJSU uses your SJSUOne login information. If you have not yet set your password, you can navigate to One.SJSU.edu to MySJSU and click the Set/Reset Password button to create a password.

- New students receive this information from admission office communications.

Having trouble logging in? If you cannot reset your password using the Set/Reset Password button, please contact [itservicedesk@sjsu.edu](mailto:itservicedesk@sjsu.edu) for assistance. Include your full name, SJSU ID if known (also known as your Tower ID), date of birth, and mailing address.

## IT Help Desk

The IT Help Desk provides assistance with campus software and network issues, including MySJSU, Canvas, Wi-Fi, SJSU Email, and many other applications. If you need technical assistance, start here.

[itservicedesk@sjsu.edu](mailto:itservicedesk@sjsu.edu)  
408-924-1530

**Operating hours for phone and chat support available on IT Service Desk website.**

## MyProgress Report

The MyProgress Report (Formerly: Academic Requirements Report), linked at your MySJSU account, allows matriculated students, advisors, and evaluators to determine what requirements a student has satisfied and what requirements are still needed. The MyProgress report matches academic requirements (university and major) against a student's individual academic record.

The report is a valuable tool in tracking your degree requirements, as well as an advising tool to assist you and your advisor in monitoring your academic progress. You should consult with your major advisor on a regular basis.

Official verification of completion of your degree requirements will be processed by the Graduation Evaluators.

# Parking Permits

## Parking Online Services

Effective July 1, 2019, Parking Services at San Jose State University will start using virtual permits.

Virtual permits allow you to park in your designated area without being required to display a physical permit. The license plate registered when purchasing your parking session will become your virtual parking permit. As each vehicle's license plate is used as your parking permit, license plates must be registered precisely to avoid being issued a citation. Errors in license plate registration are the responsibility of the registrant and will cause the issuance of a violation. You can register up to three vehicles on your permit. Only one vehicle is allowed on campus at a time. Paid parking session is required at all times when parking on campus. 24 hours a day, 7 days a week. License Plate Recognition (LPR) verifies parking session in all garages and lots. SJSU LPR Usage and Privacy Policy is available online.

### Benefits of Virtual Permits

- Eliminates the requirement to display physical permits and the need to move permits from vehicle-to vehicle
- Eliminates the need to come to the Office to pick up physical permits. No More Lines!!!
- Easy to upgrade or downgrade semester or academic virtual parking permit
- Lost or stolen permits and the associated replacement fees, police reports, and processing times will be eliminated
- Your permit is active as soon as the permit effective date
- No more forgetting your permit or worrying about a permit being displayed improperly

No physical parking permit will be sold at the Bursar's Office. Student parking virtual permits are available for sale through Parking Online Services. For more information, please visit Parking Services, e-mail [parking@sjsu.edu](mailto:parking@sjsu.edu), or call 408-924-6556.

Student virtual permits purchased online with a credit card are active as soon as the permit effective date. For other form of payment, please contact Parking Services.

### Availability

Please note that parking permits do not guarantee on-campus parking availability during peak periods (typically Monday through Thursday, 9:00 am to 12:00 pm). During peak periods, commuters are encouraged to use Transportation Alternatives (see next section) or the Park & Ride Lot located at 1281 S. 7th St.

### Parking Services

University Police Building  
408-924-6556  
[parking@sjsu.edu](mailto:parking@sjsu.edu)

# Organized Research and Training Units

## Centers, Institutes, and Collaboratives

Research units involve industry/university partnerships to enhance technology transfer, encourage development of new products and improve education.

- Accounting Advancement Center Links SJSU students and accounting professional firms; facilitate student networking and professional opportunities; sponsors student seminars on current accounting issues; and rewards excellence among students and faculty members through scholarships and grants.
- Bay Area Retail Leadership Center Consists of a multilateral partnership between SJSU students, retail industry partners, and SJSU faculty, administration, and staff. A program of Center-sponsored events brings constituents together in an effort to provide co-curricular, experiential learning opportunities designed to build students' leadership skills as well as their awareness and knowledge about retailing as a career destination.
- Biotechnology Education and Research Institute Directs the development of biotechnology through inter-departmental cooperation and serves as a clearinghouse; promotes cooperation between industry, government, and the university in biotechnology research and development. Contact the College of Science for more information.
- Center for Applied Mathematics, Computation, and Statistics Provides an innovative educational program to develop training through practical experience.
- Center for Applied Research on Human Services Housed in the College of Applied Sciences and Arts, the Center provides support and services to SJSU faculty interested in applied human services research, including a Grants Academy, writing groups, statistical consultation, and methodological workshops.
- Center for Asian Studies Provides information and counsel about studies in Asia.
- Center for Banking and Financial Services The mission of the Center is to provide an important complementary component to students' curricular education in the area of financial intermediation. One of its major goals is to create a link between SJSU students and the banking and financial services sector. By promoting professional development events, the Center provides students with opportunities to interact with professionals. Another major goal is to provide value to the college and university by enhancing the students' knowledge of financial topics. In fact, the Center sponsors presentations and lectures focusing on topics related to financial intermediation. Finally, the Center rewards excellence among students and faculty members by providing financial support through scholarships and research grants.
- Center for Comparative Philosophy Aims at promoting and enhancing the research and scholarship in comparative philosophy, the concerns of which cut across different disciplines as well as different areas of philosophy, for the sake of contributing to the academic mission of SJSU and the international scholarship of comparative philosophy.
- Center for Human Language Technology Supports the study of computational linguistics, acts as a resource for Silicon Valley technology industries, and explores applications of human language technology in industry, education, and society at large.
- Center for International Sport and Human Performance Promotes and facilitates cross-national and cross-cultural interaction of individuals and their ideas in the context of sport and human performance.
- Center for Literary Arts Provides programs featuring major contemporary writers, poets, and scholars.
- Center for Organizational Resilience **Re•sil•ience** (*noun* /rəˈzilyəns/) - the ability to withstand and recover from deliberate attacks, accidents, or naturally occurring threats or incidents" (Presidential Policy Directive 21, 2013). In a world of accelerating change, resilience is recognized as ever more crucial to survival, not just for individuals but for organizations as well. The mission of the Center for Organizational Resilience (COR) at San Jose State University is to serve as Silicon Valley's Center of Excellence for theory and practice in the emerging field of Resilience Management. COR supports a network of subject matter experts coalescing to provide resilience thought leadership and research and to disseminate leading practices to academia and the public and private sectors through training, seminars and a variety of digital channels.
- Center for Service Systems Engineering and Innovation The Center for Service Systems Engineering and Innovation (CSSEI) focuses on the development and application of the principles of service science and management to complex service systems. CSSEI's focus is on investigations related to creating and/or applying technological innovations and human-centered systems engineering processes to improve the customer's **Access** to services and the customer's **Service Experience**. CSSEI forms collaborations of faculty, students, and industry partners to improve the performance of any healthcare and regional transportation service system or organization.

- Center for Smart Technology, Computing, and Complex Systems The Center for STCCS is focused on delivering state-of-the-art engineering solutions to industrial partners and funding agencies, and provide high-quality technical consulting services and technology training to young researchers and local professionals. Experienced academic faculty, students, and research staff at the Center will carry out highly focused R&D projects addressing current and future challenges and needs in businesses, social communities, and government agencies.
- Center for the Development of Recycling A national clearinghouse for recycling information and for applied waste management research aimed to increase the scope and availability of recycling information and to increase the effectiveness of recycling as a solid waste management strategy.
- Center on Ethics Facilitates the planning and coordination of research-related activities concerned with issues of professional and business ethics.
- Collaborative for Disaster Mitigation A proactive partnership of the public, private, and academic sectors to encourage and facilitate implementation of mitigation measures to minimize the consequences of natural and other disasters.
- Global Leadership Advancement Center Housed in SJSU's College of Business and Lucas Graduate School, its mission is advancing, fostering, and disseminating cutting-edge knowledge on global leadership and its development via diverse programs for scholars, students, and the community. GLAC has two innovative student programs unique to San Jose State: the GLLab, which is an assessment center for global competencies, and the Global Leadership Passport Program, a co-curricular program in which students earn stamps for activities that prepare them for global work. GLAC's Social Innovation Initiative leverages the symbiotic relationship among San José State University, social entrepreneurs, the City of San José, foundations, and other innovation organizations to encourage and train people to apply technology and innovation for the good of the local community.
- Institute for Metropolitan Studies Facilitates the exchange of knowledge and expertise regarding urban problems and critical matters related to metropolitan development.
- Institute for Modern Optics Facilitates communication, collaboration, and coordination in the area of lasers and optics and promotes research projects in non-linear effects at surfaces, laser beam characteristics, two-wave laser mixing, holography, light emission from thin film tunnels, and laser spectroscopy; contact the Physics Department for more information.
- Institute for Nursing Research and Practice Promotes the climate of inquiry within the School of Nursing by coordinating and promoting research projects and interests of nursing faculty in order to develop innovative models for nursing research, practice, and education.
- Institute for People and Performance The Institute for People and Performance (IPP), housed in San Jose State University's Lucas College and Graduate School of Business aspires to be a center of excellence aimed at advancing knowledge of human capital management, through a combination of training, research, and engagement with industry and professional organizations.
- Institute for the Study of Sport, Society and Social Change Encourages, creates and facilitates interdisciplinary collaboration to illuminate the substance, dynamics, and significance of the institution of sport as a social sphere within which issues of power and ideology are created, reaffirmed and challenged. It is dedicated to research, analysis and education focused on the intersection of sport and social justice with activities guided by the theoretical, methodological and applied research perspectives and traditions of the sociology of sport.
- Ira F. Brilliant Center for Beethoven Studies The only research facility and document repository in North America dedicated solely to the study of the life of and performance of the works of Ludwig van Beethoven.
- Martha Heasley Cox Center for Steinbeck Studies Houses one of the most extensive collections of the Nobel Prize-winning author's manuscripts, letters, photographs, and artifacts, fostering research concerning the life and work of the author.
- Materials Characterization and Metrology Center Provides materials imaging and chemical analysis capabilities for applications in various fields of science and engineering. Instruments are located in various buildings across campus.



- Mineta Transportation Institute Focuses on international surface transportation policy issues as related to three primary responsibilities: research, education, and technology transfer. MTI receives policy oversight from an internationally respected board of trustees who represent all of the major transportation modes.
- Research Institute for Foster Youth Initiatives Explores ways to eliminate barriers that current and former foster youth face in obtaining a suitable education. Research initiated through this institute will examine how to identify those factors that limit education for this special population and identify strategies to mitigate those limitations. Contact the College of Applied Sciences and Arts for more information.
- Silicon Valley Big Data and Cybersecurity Center Directs the development of cybersecurity and big data research projects through multidisciplinary cooperation. Serves as the clearinghouse and promotes cooperation between industry, government, and SJSU in research & development, policy analysis & development, and workforce training.
- Silicon Valley Center for Entrepreneurship Promotes effective entrepreneurship through knowledge creation, knowledge dissemination, collaborative partnerships and outreach activities.
- Silicon Valley Center for Global Engineering & Education The purpose of the Center is to enhance engineering students' educational experience and career prospects in the global context by cultivating a vital relationship between SJSU and international engineering education institutions. The activities of the Center are to develop, market, and implement educational cooperation programs to international universities and to work with various SJSU units to offer outreach activities around global engineering education.
- Silicon Valley Center for Operations and Technology Management A knowledge portal for sharing academic and industrial information related to operations, supply chain, and technology management among students, faculty members, and industry partners. It is also the point of training for supplying and supporting the professional needs of the industry. The Center will serve as a future knowledge hub through research on state-of-the-art topics relevant to the Center's themes.
- Sourisseau Academy for State and Local History Promotes a better understanding of California's state and local history, with an emphasis on the history of Santa Clara Valley, through graduate scholarships and collections of historical source materials.

For more detailed information, visit Organized Research and Training Units webpage.

## Peer Connections

Peer Connections offers a range of programs to support students in their personal and academic growth including, but not limited to the development of critical thinking skills, independent learning strategies and effective study habits. All services are available free of charge to students enrolled in SJSU courses. Peer Connections' offerings consist of:

- Tutoring in over 150 different courses including writing, math, business, and science classes.
- Mentoring to guide students in their personal adjustment to college, helping students connect with other students and get the resources needed to thrive.
- Organized study groups with Supplemental Instruction Leaders for the most challenging classes.
- Support in certain classes to offer smaller group discussions and interactive collaborative learning.
- Appointments and drop-in services both in-person and online

### Peer Connections

Student Services Center, 600  
408-924-2587  
peerconnections.sjsu.edu

## Pre-Professional Study

Several sources of information and assistance are available for students who plan to enter the professions of art administration, dentistry, medicine, law, pharmacy, optometry, veterinary medicine, physical therapy, social work and theology. General information, including names and locations of faculty members who have been designated as "pre-professional" advisors, may be obtained from the appropriate academic department office. Interested students should also contact the university of their choice for information regarding the professional prerequisites for that institution. Consultants are available at the Career Center to discuss possible career paths. Application forms for admissions tests to law school, medical school and dental school are available in the Testing Office.

Student associations in pre-law, pre-medicine and pre-dentistry conduct active programs which include information about admission to professional schools, test preparation and seminars/workshops in the profession.

## Pre-Law Programs

Students planning to attend law school and pursue careers in law should be aware that no major has a special advantage in preparing them to compete on the Law School Admission Test or for admission into even the most prestigious law schools. The American Bar Association emphasizes this point in its publication *Law as a Career*: "An undergraduate should be aware that there is no particular course of study that is required or preferred by law schools. Accordingly, students from a wide variety of majors (e.g., philosophy, physics, political science, engineering, and business) are admitted to law schools each year. There is no true prelaw curriculum. Generally, a broad-based education that is rigorous and that stresses analytical and verbal communication skills will be useful." Students with undergraduate degrees in the humanities and the arts as well as the social, health, and natural sciences are consistently successful in achieving competitive scores on the LSAT and in obtaining admission to law schools of distinction.

However, students should keep in mind that successful pursuit of a career in law depends on skills acquired only through particular kinds of courses. The Law School Admission Council's Official Guide to U.S. Law Schools explains: "While no single curricular path is the ideal preparation for law school, you should choose courses that sharpen analytical reasoning and writing skills. Law schools prefer students who can think, read, and write well, and who have some understanding of what shapes human experience."

Students considering careers in law should consult regularly with a pre-law faculty advisor. The number and kind of courses that prepare students for law can be offered by a variety of departments. It is therefore important that students consult with a faculty member familiar with the curricular choices that best align student aspirations with law school expectations. A faculty advisor can also provide valuable information concerning law school and law careers that will not be acquired through any set of courses. The following departments offer pre-law advising: Justice Studies, Philosophy, Political Science. A further resource for students considering a career in law is the Law School Advisor provided by Student Services.

## Pre-Medical Programs

Medical schools do not require any specific major. While many applicants major in biology or biochemistry, the admission rate is quite good for non-science majors, in particular for psychology, because these graduates will have shown strength in two academic areas. At a minimum, applicants must complete during their college years two years of major chemistry with lab, physics with lab, math through calculus, one year of English composition, and one year, preferably two, of biology with lab. Students interested in any medical field should get as much hands-on experience as possible volunteering or working in medical settings so that they fully understand how physicians and other health professionals spend their time. There are pre-medical advisors in Biological Sciences, Chemistry, and Psychology; consult them early and often.

## Research and Innovation, Division

Students have opportunities in many majors to work with faculty on research, scholarship and creativity activity projects. Those who do can present their work in the spring semester in the SJSU Student Research Competition. Finalists of the SJSU competition are eligible for the CSU Student Research Competition.

### Division of Research and Innovationm

Clark Hall 500  
(408)924-2272  
officeofresearch@sjsu.edu  
<http://www.sjsu.edu/research/>

## Service Learning

In March 2000, the California State University Board of Trustees passed a landmark resolution in response to a request from the governor for a community service requirement for all students in California's public institutions of higher education. The CSU Board of Trustees' resolution called for the chancellor and each CSU president to "ensure that all students have opportunities to participate in community service, service learning (deemed academically appropriate by faculty), or both."

To learn more about general education service learning classes, courses in your major, or other service-based leadership opportunities for students, contact the Center for Community Learning and Leadership.

### Center for Community Learning and Leadership

Clark Hall 203  
408-924-3540

## Student Government

Associated Students, SJSU, was founded in 1897 to provide representation and services to students at San José Teachers College. Since then, the organization has evolved from a student club to a fully operational student government entity. Also, as an auxiliary to the University, we provide services that allow students to enhance their college experience.

Originally, voluntary fees were first collected in 1910 to provide services and activities. By 1957, all students were paying a portion of their registration fees to support their student government organization.

Associated Students was incorporated in 1980 and the Student Council also became the Corporation's Board of Directors.

Review our website for more information and policies related to services provided.

## Student Organizations

With over 400 student organizations at SJSU, getting involved is the best way to connect with campus life! For more information on department programs and services, please visit our Recognized Student Organizations website.

Student Involvement Policies and Procedures: Student Organization Handbook and Policies

## Study Abroad and Away Programs

Study Abroad and Away contributes to the internationalization of San José State University by providing students the opportunity to study abroad on longterm programs (Exchange Programs, CSU International Programs, and International Student Exchange Programs) and short-term programs (Faculty-Led Programs and Summer School Abroad Programs) for academic credit, offering Alternative Break Programs for cultural immersion, and designing other globally focused opportunities. Through these channels, we seek to cultivate a diverse global community through international and domestic academic opportunities and partnerships.

**For applications or more information about any of the programs described here, contact:**

SJSU Study Abroad and Away Office  
Student Union  
408-924-5931  
spartansabroad@sjsu.edu  
www.sjsu.edu/studyabroad/

## SJSU Exchange Programs

Study at a partner university abroad for a semester or a year with an SJSU exchange! Choose from programs in over 20 countries, receive SJSU credit for every class you take, and study with students from all over the world. There are programs for every major, and all financial aid applies. There are even scholarships just for study abroad students!

### **Argentina**

Universidad de Ciencias Empresariales y Sociales (Buenas Aires)

### **Australia**

Queensland University of Technology (Brisbane)  
Royal Melbourne Institute of Technology (Melbourne)

### **Austria**

FH Campus Wien (Vienna)  
MCI Management Center (Innsbruck)

### **China (Hong Kong)**

City University Hong Kong (Hong Kong)  
Hong Kong Baptist University (Hong Kong)

### **Finland**

JAMK University of Applied Sciences (Jyvaskyla)

**France**

Institute of Political Science (Lille)  
L'Ecole Nationale Supérieure de Création Industrielle (Paris)  
Toulouse Business School (Toulouse)  
Universities of Strasbourg Business School (Strasbourg)

**Germany**

Hochschule fur Gestaltung Schwabisch Gmund (Schwabisch Gmund)  
Technische Hochschule Ingolstadt (Ingolstadt)  
RWTH Aachen University (Aachen)

**India**

Alliance Business School (Bangalore)

**Ireland**

University College Dublin (Dublin)

**Japan**

Kagoshima University (**Kagoshima**)  
Kwansei Gakuin University (Osaka)  
Kyushu University (Fukuoka)  
Okayama University (Okayama)  
Sophia University (Tokyo)  
Yokohama National University (Yokohama)

**Lithuania**

Kaunas University of Technology (Kaunas)

**Netherlands**

Rotterdam Business School (Rotterdam)

**Norway**

University of Oslo (Oslo)

**Portugal**

University of Porto (Porto)

**Spain**

University of Burgos (Burgos)  
Toulouse Business School (Barcelona)

**South Korea**

Gyeongsang National Univeristy (Jinju)  
Kyungpook National University (Daegu)

**Sweden**

University West (Trollhattan)

**Switzerland**

Zurich University of Applied Sciences (Winterthur)

**Thailand**

Chulalongkorn University (Bangkok)

**United Kingdom**

Edinburgh Napier University (Edinburgh)  
Liverpool John Moore's University (Liverpool)  
Nottingham Trent University (Nottingham)  
Portsmouth Business School (Portsmouth)  
University of Birmingham (Birmingham)  
University of Roehampton (London)  
University of Strathclyde (Glasgow)

**Vietnam**

RMIT University Vietnam (Ho Chi Minh City)

## CSU International Programs

Developing intercultural communication skills and international understanding among its students is a vital mission of the California State University (CSU). Since its inception in 1963, the CSU International Programs (CSU IP) has contributed to this effort by providing qualified students an affordable opportunity to continue their studies abroad for a full academic year. More than 20,000 CSU students have taken advantage of this unique study option.

International Programs participants earn resident academic credit at their CSU campuses while they pursue full-time study at a host university or study center abroad. CSU IP serves the needs of students in more than 100 designated academic majors. Affiliated with more than 50 recognized universities and institutions of higher education in 18 countries, CSU IP also offers a wide selection of study abroad destinations and learning environments.

**Australia**

Griffith University (Brisbane)  
Macquarie University (Sydney)  
Queensland University of Technology (Brisbane)  
University of Queensland (Brisbane)  
Western Sydney University (Sydney)

**Canada**

Concordia University (Montréal)

**Chile**

Pontificia Universidad Católica de Chile (Santiago)

**China**

Peking University (Beijing)

**Denmark**

Danish Institute for Study Abroad (Copenhagen)

**France**

Universities of Paris (Paris)  
Aix-Marseille Université (Aix-en-Provence)

**Germany**

Trossingen University of Music (Trossingen)  
Universities of Baden-Württemberg

**Ghana**

University of Ghana (Accra)

**Israel**

University of Haifa (Haifa)

**Italy**

CSU Study Center (Florence)

**Japan**

Waseda University (Tokyo)  
University of Tsukuba (Tsukuba)

**Mexico**

Instituto Tecnológico y de Estudios Superiores de Monterrey (Querétaro)

**South Africa**

Nelson Mandela University (Port Elizabeth)

**South Korea**

Yonsei University (Seoul)

**Spain**

Universidad Complutense de Madrid (Madrid)  
Universidad de Granada (Granada)  
Universidad de Jaén (Jaén)

**Sweden**

Uppsala University (Uppsala)

**Taiwan**

National Taiwan University (Taipei)

**United Kingdom**

University of Bradford (Bradford)  
University of Bristol (Bristol)  
Kingston University (Kingston)  
Swansea University (Swansea)  
University of Birmingham (Birmingham)

Students participating in CSU IP pay CSU tuition and program fees, and are responsible for airfare, accommodations, meals and other personal expenses. Financial aid, with the exception of Federal Work-Study, is available to qualified students and limited scholarship opportunities are also available. All programs require students to maintain good academic and disciplinary standing, many programs are open to sophomores or graduate students. California Community College transfer students are eligible to apply (to select programs) directly from their community colleges. Students must possess a current cumulative grade point average of 2.75 or 3.0, depending on the program, and must fulfill all coursework prerequisites. Additional program information and application instructions can be found on our website at [www.calstatele.edu/ip](http://www.calstatele.edu/ip).

## International Student Exchange Programs (ISEP)

SJSU is a member of ISEP, a non-profit organization that offers study abroad options at over 200 universities in 51 countries. Study with ISEP for an academic year, a semester, or a summer! Immerse yourself in classes at local universities and receive SJSU credits for each course. If you are interested in studying abroad in a place that is off the beaten path, ISEP has the program for you!

## SJSU Faculty-Led Programs (FLP) & Summer School Abroad (SSA)

SJSU Faculty-Led Programs and Summer School Abroad programs are 1-8 week study abroad programs that take place domestically and abroad during the summer or winter sessions. FLPs are led by an SJSU faculty member and SSA programs offer direct placement into a partner university's summer school abroad for a short-term program. Both experiences provide students the opportunity to earn SJSU credit while participating in a global experience.

### SJSU Alternative Break Programs

Alternative Break Programs provide San José State University students the opportunity to experience other cultures through community visits, service learning projects, group activities, and discussions. These non-credit bearing programs allow you to explore another region of the U.S. or an international destination with a group of your classmates and an SJSU leader during spring break or summer!

Request further information from Susie Morris, Director of Study Abroad and Away, College of Professional and Global Education contact:

### Short-Term Study Abroad Programs 408-924-6128

<http://www.sjsu.edu/studyabroad>  
[spartansabroad@sjsu.edu](mailto:spartansabroad@sjsu.edu)

## Testing Office

Information on TEAS, WST; graduate examinations (GRE, LSAT, MCAT, etc.), including registration materials.



Services include but are not limited to make-up tests; proctored examinations; as well as Waiver Exams (American Institutions, U.S. History).

### **Testing Office**

IS 228  
408-924-5980  
testing-office@sjsu.edu  
testing.sjsu.edu

## **Tower Card**

- The Tower ID Card with the student's photo is issued to students who pay the campus fees. Paper IDs are available to students who request them for other program, i.e., Open University and Special Session.
- To obtain an SJSU Tower Card, students must present a valid driver's license, state ID (issued by the DMV), passport, or other government-issued ID at the Tower Card Window located in the Student Services Center.
- Newly admitted students receive their Tower Cards during orientation after registering for classes.
- You are required to use this card as student identification to obtain services at the Event Center, Health Center, Student Services Center (including Admissions, Bursar's, Registrar Services), Career Center, MLK Library, Santa Clara County Valley Transportation Authority (buses and light rail) as well as to obtain parking permits and other frequently used student services.
- Replacement ID cards are \$5.00, Cash only.

### **Bursar's Office**

Student Services Center  
408-924-1601

## **Transfer Advising**

### **Prospective Students**

Student Outreach and Recruitment  
Student Services Center  
408-924-2564

**Admitted and Continuing Students** - GE, graduation requirements and university policy (See the college specific student success center below for your specific major.)

Academic Advising and Retention Services  
Student Services Center  
408-924-2129

## **Transportation Alternatives**

Don't spend your semester stuck in traffic. Visit Transportation Solutions to explore ways to make your commute more enjoyable and environmentally-friendly. Transportation Solutions provides expert advice on how to use alternative commute options such as carpooling, public transit, and bicycling to get to campus.

### **Associated Students Transportation Solutions**

TS Center is located in Student Union East Wing  
(9th Street Plaza)  
1 Washington Square,  
SU 1800, San Jose,  
CA 95192-0129  
408-924-RIDE (7433)

## Undergraduate Admission Counseling

- No appointments are needed. Students are seen on a first-come, first-serve basis
- All applicants: use access information sent to you by the Undergraduate Admissions office.
- Apply online at [Calstate.edu/apply](https://calstate.edu/apply) for undergraduate and graduate admission.
- Receive information on admission requirements and information on majors offered at SJSU.
- Get help with questions about the undergraduate admission process or about your admission status.
- For campus tours, by appointment only, please go to SOAR or call the Welcome Center at 408-924-2786.
- Pick up campus directions and self-guided tour map.

### Student Outreach and Recruitment

[outreach@sjsu.edu](mailto:outreach@sjsu.edu)  
408-924-2564

## Veterans Educational Benefits

### Military and Veteran Student Services

Student Union Building, room 1500  
408-924-8129  
[veterans@sjsu.edu](mailto:veterans@sjsu.edu)  
[www.sjsu.edu/veterans](http://www.sjsu.edu/veterans)

## Writing Center

The San José State University Writing Center offers a variety of resources to help students become better writers, and all our services are free for SJSU students. Our mission is to enhance the writing skills of SJSU students so they can communicate clearly in any setting (informal, academic, or professional). All our writing tutors have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. We accomplish this goal through offering the following services:

- tutoring appointments;
- drop-in tutoring sessions;
- online tutoring;
- one-hour workshops on various writing topics;
- numerous online resources, including videos, handouts, and a blog;
- special programming, such as writing retreats and conversation groups.

### Contact Information:

[www.SJSU.edu/WritingCenter](http://www.SJSU.edu/WritingCenter)  
[writingcenter@sjsu.edu](mailto:writingcenter@sjsu.edu)  
408.924.2308

**Locations:**

**Clark Hall, Suite 126 (drop-in tutoring)**

Second Floor, MLK Library (scheduled tutoring appointments)  
Online Tutoring (Scheduled appointment conducted via Zoom)

## Disclaimer

Although every effort has been made to assure the accuracy of the information in this catalog, students and others who use this catalog should note that laws, rules, and policies change from time to time and that these changes may alter the information contained in this publication. Changes may come in the form of statutes enacted by the Legislature, rules and policies adopted by the Board of Trustees of the California State University, by the Chancellor or designee of the California State University, or by the President or designee of the campus. It is not possible in a publication of this size to include all of the rules, policies and other information that pertain to students, the institution, and the California State University. More current or complete information may be obtained from the appropriate department, school, or administrative office.

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The annual update of SJSU policies is recommended as an up-to-date source of information on course offerings, general education, registration procedures, schedule of fees and other pertinent information on policies and procedures.

*The CSU Mandatory Catalog language for the 2020-2021 Academic Year has not yet been published. Therefore, language in this catalog related to fees and policies are subject to change.*

**Information is subject to change.**

Directory | Faculty & Administration | Leadership

# Faculty & Administration

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Year in parentheses indicates date of appointment as a full-time member of the faculty or administration. Retired faculty and staff awarded Emeritus honors are listed on the Emeritus Faculty. Staff information is available in the SJSU Directory.

Papazian, Mary - *President* (2016)

PhD, University of California, Los Angeles

## A

Abousalem, Mohamed - *Vice President, Research and Innovation* (2019)

BS, Alexandria University, Egypt

MBA, Santa Clara University

MS and PhD, University of Calgary, Canada

Abramson, Tzvia - *Professor, Biological Sciences* (2005)

BS and PhD, Ben Gurion University, Israel

Abriam-Yago, Katherine - *Professor, Nursing* (1985)

BS, University of San Francisco

MA, University of San Diego

DED, University of San Francisco

Ackerman, Brian - *Marine Operations Manager* (2016)

BS, Loyola Marymount University

Adams, Ericka - *Assistant Professor, Justice Studies* (2010)

BA, John Jay College of Criminal Justice

PhD, University of Illinois at Chicago

Adams, Walter - *Assistant Professor, Biological Sciences* (2019)

PhD, University of California, Santa Cruz

Agbay, Alejandro - *Associate Director, Student Outreach and Recruitment* (2001)

MA, San Jose State University

Agarwal, Raghu - *Professor, Mechanical Engineering* (1980)

BSME, Michigan Technological University

MS and PhD, Texas A&M University

Agee, Ann - *Interim Dean Univ Library, University Library* (2008)

BA, University of California, Davis

MLIS, San Jose State University

Aggarwal, Nitin - *Associate Professor, Information Systems and Technology* (2007)

BS, Delhi University

MBA, Lal Bahadur Shastri Institute of Management, India

PhD, Texas Tech University

Agrawal, Asha Weinstein - *Professor, Urban and Regional Planning* (2002)

BA, Harvard University

MS, London School of Economics and Political Science

PhD, University of California, Berkeley

Aguilar, Katya - *Professor, Teacher Education* (2005)

BA, William Jewell College

MS and PhD, Kansas State University

Agumbe Suresh, Mahima - *Assistant Professor, Computer Engineering* (2015)

BTech, National Institute to Technology, Karnataka, India

PhD, Texas A&M University

Aiello, Ivano - *Professor, Moss Landing Marine Lab* (2001)

PhD

Al-Manaseer, Akthem - *Professor, Civil and Environ Engineering* (1996)

BS, Basrah University, Iraq

PhD, Glasgow University

Alaniz, Maria - *Professor, Sociology and Interdisciplinary Social Sciences* (1988)

BA and MA, San Jose State University

PhD, Stanford University

Albert, Leslie - *Associate Professor, Information Systems and Technology* (2007)

BS, Florida State University

MBA and PhD, University of Oklahoma

Albin, Greg - *Captain, Administration and Operations Bureau* (2018)

AA, Evergreen Valley College

Aleksander, Jason - *Associate Dean of Faculty Success for College of Humanities and Arts* (2018)

BA, University of Texas, Austin

PhD, Vanderbilt University

Alexander, Serena - *Assistant Professor, Urban and Regional Planning* (2016)

MA, California State Polytechnic University, Pomona

PhD, Cleveland State University

Allen, Monica - *Assistant Professor, Public Health and Recreation* (2013)

BS and MPH, Loma Linda University

DPH, University of California, Berkeley

Allen, Heather - *Associate Professor, Music and Dance* (2009)

BSN, San Jose State University

MA, California State University, Long Beach

Alimo, Craig - *Diversity Trainer* (2019). BA, 1992, Rider College

BA, Rider College, New Jersey

MS, 1995, Northeastern University

PhD 2010, University of Maryland, College Park

Altura, Thomas - *Assistant Professor, School of Management* (2015)

BA, MBA, and PhD, University of California, Los Angeles

Alvarez, Mildred - *Associate Professor, Psychology* (1990)

BA, Florida International University

MA and PhD, Boston University

Amirkulova, Feruza - *Assistant Professor, Mechanical Engineering* (2018)

BS AND PhD, Samarkand State University named after Alisher Navoiy

MS and PhD, Rutgers University, New Brunswick

Anagnos, Thalia - *Vice Provost, Undergraduate Education* (1984)

BA, University of California, San Diego

MS and PhD, Stanford University

Anderson, Benjamin - *Assistant Professor, Accounting and Finance* (2015)

BS and MAc, Truman State University

PhD, University of Arkansas, Little Rock

Anderson, Curt - *Senior Director, Marketing, Communications, and Outreach* (2013)

BA and MA, San Francisco State University

Anderson, James - *Associate Director, Student Affairs Systems and Student Success Programs* (1998)

BS, San Jose State University

Anderson, Selena - *Assistant Professor, English* (2017)

PhD

Andonian, Lynne - *Professor, Occupational Therapy* (2004)

BS, Boston University

MA, The Pratt Institute

PhD, Saybrook Institute

Andreopoulos, William - *Assistant Professor, Computer Science*

BS and MS, McMaster University, Canada

PhD, York University, Canada

Arabit, Luis - *Assistant Professor, Occupational Therapy* (2018)

BS, University of the Philippines, Manila

MS, Texas Tech University

DOT, University of Saint Augustine, Florida

Armaline, William - *Associate Professor, Sociology and Interdisciplinary Social Sciences* (2007)

BA, University of Toledo

MA and PhD, University of Connecticut

Armani, Amir - *Assistant Professor, Mechanical Engineering* (2018)

PhD, Missouri University of Science and Technology

Armstrong, Amber - *Director of Special Events* (2019)

BA, St. Mary's University

JD, University of Texas School of Law

Armstrong, Cole - *Assistant Professor, Kinesiology* (2015)

BS and MS, University of Central Missouri

PhD, Florida State University

Asuncion, Arlene - *Professor, Psychology* (1995)



BA and PhD, University of California, Santa Barbara

Attar, Nada - *Assistant Professor, Computer Science* (2018)

BSS, King AbdulAziz University, Saudi Arabia

MS, Tufts University

PhD, University of Massachusetts, Boston

Austin, Thomas - *Associate Professor, Computer Science* (2013)

BA, Santa Clara State University

MS, San Jose State University

PhD, University of California, Santa Cruz

Averett, Janet - *Professor, Music and Dance* (1986)

BM, University of North Carolina, Greensboro

MM and PhD, Northwestern University

DMA, University of Michigan, Ann Arbor

Azcona, Stevan - *Assistant Professor, Chicana and Chicano Studies* (2018)

PhD, University of Texas, Austin

## B

Baba, Yoko - *Professor, Justice Studies* (1990)

BBA, Kwansai Gakuin University, Japan

MS, Pittsburg State University

MSW, MA, and PhD, University of Oklahoma, Norman

Bacich, Damian - *Professor, World Languages and Literatures* (2007)

BA, University of San Francisco

MA and PhD, University of California, Los Angeles

Backer, Patricia - *Professor, Technology* (1990)

BS, Rutgers University

MA and MS, Tennessee Temple University

MA and PhD, Ohio State University

Badawy, Mohamed - *Assistant Professor, Electrical Engineering* (2016)

BS, Cairo University

MS and PhD, University of Akron

Baer, Cynthia - *Assistant Professor, English* (1981)

BA, San Jose State University

PhD, University of Washington

Bahuguna, Ramendra - *Professor, Physics and Astronomy* (1989)

BS, Bareilly College, India

MS and PhD, Indian Institute of Technology, New Delhi

Bailey, Christa - *Senior Assistant, University Library* (2003)

BS, Santa Clara University

MS, San Jose State University

Bagley, Brian - *Senior Landscape Manager, Ground* (2017)

BS, University of California, Davis

Bakhru, Tanya - *Professor, Sociology and Interdisciplinary Social Sciences* (2008)

Ba, University of Redlands

MA, San Diego State University

PhD, University College Dublin, Ireland

Balogh, Randy - *Director of Planned Giving* (2016)

MS, Bowling Green State University

Barash, Mark - *Assistant Professor, Justice Studies* (2019)

BS and MS, Hebrew University of Jerusalem, Israel

PhD, Bond University, Australia

Barez, Fred - *Professor and Chair, Mechanical Engineering* (1985)

BS, Michigan Technological University

MS and PhD, University of California, Berkeley

Bargas, Darlene - *Manager, Instructional and Meeting Spaces* (2005)

AS, Monterey Peninsula College

Barrera, Magdalena - *Professor and Chair, Chicana and Chicano Studies* (2008)

BA, University of Chicago

PhD, Stanford University

Bashash, Saeid - *Assistant Professor, Mechanical Engineering* (2015)

BS, Sharif University of Technology

MS and PhD, Clemson University

Basu, Anuradha - *Professor, Global Innovation and Leadership* (2003)

BEcon (Hons), University of Delhi, India

MBA, Indian Institute of Management, India

MPhil and PhD, University of Cambridge, United Kingdom

Bates, Brian - *Associate Vice President, Alumni and Community Engagement* (2007)

BA, Washington State University

Baur, Joshua - *Assistant Professor, Public Health and Recreation* (2014)

BA, University of California, San Diego

MS, University of Michigan

PhD, Oregon State University

Bawel-Brinkley, Karen - *Professor, Nursing* (2004)

BS, University of Evansville

MS and PhD, Indiana University, South Bend

Bechert, Andrea - *Assistant Professor, Film and Theatre* (2016)

MFA, Ohio State University

Bechkoff, Jennifer - *Associate Professor, Marketing and Business Analytics* (2008)

BS and MBA, California State University, Fresno

PhD, University of Cincinnati

Becker, Bernd - *Associate Librarian, University Library* (2009)

MLIS, San Jose State University

Bejar Lopez, Sergio - *Associate Professor, Political Science* (2015)

PhD, University of Notre Dame

Belcastro, Frank - *Captain, MLK Library Security* (2008)

BS, Fordham University

Belet, Brian - *Professor, Music and Dance* (1994)

BM, Arizona State University

MA and DMA, University of Illinois at Urbana-Champaign

Bellofiore, Alessandro - *Assistant Professor, Biomedical Engineering* (2014)

MS and PhD, Università Federico II di Napoli, Italy

Benson, Jeffrey - *Associate Professor, Music and Dance* (2011)

BS, New York University

MM and PhD, Florida State University

Beresford, Melissa - *Assistant Professor, Anthropology* (2019)

PhD, Arizona State University

Bernier, Anthony - *Professor, School of Information* (2005)

BA and MLIS, University of California, Berkeley

MA and PhD, University of California, Irvine

Beyersdorf, Peter - *Professor, Physics and Astronomy* (2005)

BS, University of Michigan

PhD, Stanford University

Bhagat, Shaum - *Professor, Doctor of Audiology Program* (2017)

BA, Washington State University

MS, The University of Arizona

PhD, University of Texas at Austin

Bindal, Ahmet - *Professor, Computer Engineering* (2007)

BS, Bogazici University, Turkey

MS and PhD, University of California, Los Angeles

Blackmer Reyes, Kathryn - *Librarian, University Library* (2007)

MA, Binghamton University

MLIS, San Jose State University

Blanton, Andrew - *Assistant Professor, Art and Art History* (2014)

MFA, University of North Texas

Blisniuk, Kimberly - *Assistant Professor, Geology* (2015)

PhD, University of California, Davis

Blockus, Marilyn - *Professor, Mathematics* (1977)

BA, Elmira College

PhD, John Hopkins University

Bodart, Joni - *Associate Professor, School of Information* (2003)

BS, BA, MLIS, MA, and PhD, Texas Woman's University

Boero, Natalie - *Professor, Sociology and Interdisciplinary Social Sciences* (2006)

BA, Linfield College

MA and PhD, University of California, Berkeley

Bolding, Deborah - *Assistant Professor, Occupational Therapy* (1993)

BS, The University of Florida

MS, Boston University

PhD, Capella University

Bolton, Shawna - *Assistant Professor, Justice Studies* (2017)

PhD, University of Wolverhampton, United Kingdom

Bogie, Nathaniel - *Assistant Professor, Geology* (2019)

BS, University of California, Santa Cruz

PhD, University of California, Merced

Bonakdar, Sara - *Director of Strategic Outsourcing* (2016)

BA, University of California, San Diego

MA, University of Nevada, Reno

Bonesteel, Eric - *Associate Director, Silicon Valley Outreach* (2008)

BA, San Jose State University

Bowen, Dore - *Associate Professor, Art and Art History* (2005)

Bowers, Joanne - *Head Coach, Women's Gymnastics* (2018)

BS, James Madison University

MA, Austin Peay State University

Bowsky, Sonja - *Manager, Distribution and Asset Services* (2014)

Boylan-Ashraf, Peggy - *Assistant Professor, General Engineering* (2015)

BS, MEng, and PhD, Iowa State University

Brada, Angela - *Professor, English* (1998)

BA, University of California, Berkeley

MA and PhD, University of California, Santa Barbara

Brandt, Kirsten - *Assistant Professor, Film and Theatre* (2019)

BA, University of California, San Diego

MFA, Goddard College

Bremer, Martina - *Professor, Mathematics* (2007)

BS, University of Hanover, Germany

MS and PhD, Purdue University

Brennan, Brent - *Head Coach, Football* (2005)

BA, University of California, Los Angeles

Brent, James - *Professor, Political Science* (1994)

BA, Southern Methodist University

MA and PhD, Ohio State University

Briceno, Allison - *Assistant Professor, Teacher Education* (2015)

BA, University of Pennsylvania

MA, Stanford University

DED, University of San Francisco

Bridger, Alison - *Professor, Meteorology and Climate Science* (1984)

BS, Sussex University, United Kingdom

MS, Reading University, United Kingdom

PhD, Colorado State University

Brinkman, Daniel - *Assistant Professor, Mathematics* (2016)

BS, University of Minnesota

PhD, University of Cambridge

Broberg, Scott - *Director, Operations and Finance* (2017)

BS, Santa Clara University

Brook, David - *Professor, Chemistry* (2006)

BS, University of Lancaster, United Kingdom

PhD, University of Colorado at Boulder

Brown, Calvin - *Associate Director, Custodial and Moving Services, MLK Library Facility* (2003)

Brown, Corie - *Assistant Professor, Music and Dance* (2019)

BME, Alma College

MA, University of Oregon

DMA, University of Colorado at Boulder

Brown, Étienne - *Assistant Professor, Philosophy* (2019)

BA and MA, University of Ottawa, Canada

PhD, Université Paris-Sorbonne, France

Brown, Karin - *Professor, Philosophy* (2001)

BA, Hunter College, The City University of New York

PhD, The Graduate Center, The City University of New York

Brown, Patrick - *Assistant Professor, Meteorology and Climate Science* (2012)

BS, University of Wisconsin

MS, San Jose State University

PhD, Duke University

Bruce, Emily - *Associate Professor, School of Social Work* (1998)

BS, University of California, Davis

MSW, University of Washington

PhD, University of California, Berkeley

Bruck, David - *Professor, Biological Sciences* (1987)

BA, University of California, Berkeley

PhD, Cornell University

Buckner-Capone, Anji - *Assistant Professor, Public Health and Recreation* (2005)

MPH and DED, San Jose State University

Bui, Viet Anh - *Assistant Director, Enterprise Accounting Services* (2018)

BS, San Jose State University

Bullen, Maria - *Associate Professor, Accounting and Finance* (2014)

PhD, University of California, Los Angeles

Burciaga, Maria Rebeca - *Associate Professor, Chicana and Chicano Studies* (2010)

BA, University of California, Santa Cruz

EdM, Harvard Graduate School of Education

PhD, University of California, Los Angeles

Burrill, Gerald - *Executive Managing Director for Hammer Theatre* (2016)

MFA, University of California, Irvine

Busch, Joel - *Associate Professor, Accounting and Finance* (2013)

BS and MS, San Jose State University,

JD, Monterey College of Law

Bustillo, Pamela - *Associate Registrar* (2014)

BS, Santa Clara University

Butler, Stanley - *Associate Professor, Kinesiology* (1989)

BS, Culver-Stockton College

MS, Northwestern State University

PhD, Texas A&M University

Butler, Buddy - *Professor, Film and Theatre* (1991)

BFA, Howard University

MFA, University of Washington

Butryn, Theodore - *Professor, Kinesiology* (1997)

BA, University of Tennessee-Knoxville

BS, San Jose State University

PhD, University of Tennessee, Knoxville

Butzlaff, Alice - *Assistant Professor, Nursing* (2016)

PhD, University of California, San Francisco

Buurman, Erica - *Assistant Professor, Music and Dance* (2019)

PhD

Byrd, Marquita - *Associate Professor, Communication Studies* (1991)

BS, Central Missouri State University

MA, Southern Illinois University

PhD, University of Missouri, Columbia

## C

Cabot, Matt - *Associate Professor, Journalism and Mass Communications* (2007)

BA, University of the Pacific

MS, San Jose State University



MA, San Francisco Theological Seminary

PhD, Regent University

Cabrera, Peggy - *Associate Librarian, University Library* (2005)

MA, University of Arizona

Calegari, Mary - *Associate Professor, Accounting and Finance* (2003)

BS and MA, University of Hawaii at Manoa

PhD, University of Georgia

Callaghan, Glenn - *Professor, Psychology* (1998)

BA, University of California, Irvine

PhD, University of Nevada, Reno

Campbell, Toni - *Professor, Child and Adolescent Development* (1985)

BA, San Francisco State University

Med, University of Houston

MA and PhD, University of Kansas

Campisi, Marion - *Assistant Professor, Mathematics* (2015)

BA, University of California, Santa Cruz

PhD, University of California, Davis

Campsey, Billy - *Professor, Accounting and Finance* (1982)

BA and BBA, University of Texas, Arlington

MBA, University of Houston

PhD, University of Texas, Arlington

Canete, Carolyn - *Annual Giving Manager* (2007)

MA, Saint Mary's College of California

Canham, Daryl - *Professor, Nursing* (1979)

BS, University of New Mexico

MS, San Diego State University

DED, Nova University

Capdevila, Lucia - *Assistant Professor, Aerospace Engineering* (2017)

BS, MS, and PhD, Purdue University

Capriotti, Matthew - *Assistant Professor, Psychology* (2016)

BA and BS, University of Florida

MS and PhD, University of Wisconsin, Milwaukee

Caraves, Jack - *Assistant Professor, Sociology and Interdisciplinary Social Sciences* (2019)

BA, University of California, Santa Cruz

PhD, University of California, Los Angeles

Cargill, Shelley - *Associate Professor, Biological Sciences* (2013)

BS, California Polytechnic State University, San Luis Obispo

MS and PhD, University of California, Davis

Carr, Valerie - *Assistant Professor, Psychology* (2015)

BS, College of William and Mary

PhD, University of California, Los Angeles

Carter, Andrew - *Assistant Professor, Public Health and Recreation* (2019)

MA, San Jose State University

MPh and PhD, University of Memphis

Carter, Benjamin - *Assistant Professor, Biological Sciences* (2015)

BS, California Polytechnic State University, San Luis Obispo

PhD, University of California, Berkeley

Cascella, Paul - *Professor, Communicative Disorders and Science* (2015)

BS, Marquette University

MA, State University of New York, Buffalo

PhD, University of Connecticut

Castillo, Francisco - *Managing Director, JHSSC, Holland Student Success Center* (2011)

BA, University of California, Santa Barbara

MS, California State University, Long Beach

Castillo Vardaro, Jessica - *Assistant Professor, Biological Sciences* (2019)

PhD, Oregon State University

Cayco-Gajic, Maria - *Professor, Mathematics* (1988)

BS, University of the Philippines

MS, University of Connecticut

PhD, Carnegie Mellon University

Celano, Justin - *Police Lieutenant* (2003)

Chagolla, Placentina - *Custodial Crew Manager* (2006)

Chai, David - *Professor, Design* (2004)

BA and MA, San Jose State University

Chan, Emily - *Associate Dean for Research and Scholarship, University Library* (2011)

MLIS, San Jose State University

Chan, Rebecca - *Assistant Professor, Philosophy* (2017)

BA, Boston University

MA and JD, University of Colorado

PhD, University of Notre Dame

Chancellor-Freeland, Cheryl - *Professor, Psychology* (1996)

BA, San Jose State University

PhD, University of California, Santa Barbara

Chang, Lee - *Professor, Applied Data Science* (1986)

BS, Tatung University, China

MS and PhD, University of Texas, Austin

Chang, Megan - *Associate Professor, Occupational Therapy* (2012)

BS, MA, and PhD, University of Southern California

Chang, Seung Ho - *Assistant Professor, Kinesiology* (2016)

BS and MA, Seoul National University, South Korea

PhD, Ohio State University

Cheers, Duane - *Associate Professor, Journalism and Mass Communications* (2006)

PhD, Howard University

Chen, Caroline - *Assistant Professor, Accounting and Finance* (2016)

BS, Rutgers University Business School

JD, American University

LLM in Taxation, Georgetown University Law Center

Chen, Gong - *Professor, Kinesiology* (1990)

BEd, Shenyang Physical Education Institute

MEd, Beijing University of Physical Education

PhD, University of Arkansas, Fayetteville

Chen, Guangliang - *Assistant Professor, Mathematics* (2014)

BS, University of Science and Technology of China

PhD, University of Minnesota

Chen, Hsuanwei - *Associate Professor, School of Information* (2013)

BS and MS, National Taiwan University, China

PhD, University of Texas at Austin

Chen, Yu - *Assistant Professor, Information Systems and Technology* (2018)

BE, Huazhong University of Science and Technology, China

MS, Norwegian University of Science and Technology, Norway

MS, Aalto University, Finland

PhD, Swiss Federal Institute of Technology at Lausanne, Switzerland

Cheng, Cheng - *Senior Assistant, University Library* (2018)

MLIS, State University of New York, Buffalo

Cherickal Viswanathan, Vimal Kumar - *Assistant Professor, Mechanical Engineering* (2016)

BTech, National Institute of Technology, India

MS and PhD, Texas A&M University

Cheruzel, Lionel - *Professor, Chemistry* (2009)

PhD, University of Louisville

PDF, California Institute of Technology

Chiao, Sen - *Professor, Meteorology and Climate Science* (2011)

PhD, North Carolina State University

Chierichetti, Maria - *Assistant Professor, Aerospace Engineering* (2019)

BS and MS, Politecnico di Milano, Italy

PhD, Georgia Institute of Technology

Chin, Elaine - *Professor, Teacher Education* (2007)

BA and MA, University of Chicago

PhD, Stanford University

Chin, Jessica - *Associate Professor, Kinesiology* (2008)

BA, St. Mary's College of Maryland

MA, American University

PhD, University of Maryland

Cho, Jang Hyung - *Associate Professor, Accounting and Finance* (2008)

PhD, Florida International University

Choi, Kyoung Mi - *Associate Professor, Counselor Education* (2019)

MA, MS, PhD, Syracuse University

Choo, Chang - *Professor, Electrical Engineering* (1991)

MS and PhD, Rensselaer Polytechnic Institute

Chopra, Ruma - *Professor, History* (2008)

PhD, University of California, Davis

Chou, Chengkuo - *Associate Director, Planning and Operations* (2017)

MS, University of California, Riverside

Chua, Peter - *Professor, Sociology and Interdisciplinary Social Sciences* (2001)

BS, University of Texas at Austin

MA and PhD, University of California, Santa Barbara

Chu, Helen - *Associate Director, Enrollment Image and Archive Operations* (2019)

BS, New Jersey Institute of Technology

Chun, Robert - *Professor, Computer Science* (1995)

BS, MS, PhD, University of California, Los Angeles

Chung, Wenchang - *Professor, Chemical and Materials Engineering* (1987)

PhD, Auburn University

Cisar, Craig - *Professor, Kinesiology* (1986)

BS, University of South Dakota

MS, PhD, University of Nebraska-Lincoln

Clapp, John - *Associate Professor, Design* (1994)

MA, Syracuse University

Clements, Craig - *Professor and Director of the Fire Weather Research Laboratory, Meteorology and Climate Science* (2007)

BS, University of Nevada

MS, University of Utah

PhD, University of Houston

Clark, Jon - *Senior Director, Customer Service* (2019)

BS, University of Arizona

Clark, Robert - *Deputy Director of Athletics, External Athletic Operations* (2020)

BA, Occidental College

PhD, Texas A&M University

Cleary, Ricky - *Custodial Crew Manager* (2015)

AAS, Kaplan University

Coelho, Raquel - *Associate Professor, Design* (2009)

MFA, School of Visual Arts

Cohen, Edward - *Professor, School of Social Work* (2007)

MSW and PhD, University of California, Berkeley

Cohen, Fred - *Professor and Chair, Music and Dance* (2014)

BA, University of California, Santa Cruz

MA and PhD, Cornell University

Colbert, Beth - *Associate Vice President, Advancement and Campaign Operations* (2005)

BA and MS, San Jose State University

Cole, Kristen - *Assistant Professor, Communication Studies* (2019)

PhD, University of New Mexico

Collins, Elaine - *Associate Dean, College of Social Science* (1998)

PhD, University of Riverside

Combs, Howard - *Professor, Marketing and Business Analytics* (1996)

BA and MBA, Virginia Polytechnic Institute and State University

PhD, University of Georgia

Connolly, Thomas - *Assistant Professor, Moss Landing Marine Lab* (2015)

BS, Stanford University

MS and PhD, University of Washington

Coopman, Stephanie - *Professor, Communication Studies* (1990)

BS, Western Michigan University

MA, Central Michigan University

PhD, University of Kentucky

Corcoran, Janine - *Director of Development for Intercollegiate Athletics, External Athletic Operations* (2018)

BS, University of Delaware

Cordero, Eugene C - *Professor, Meteorology and Climate Science* (2002)

BS and MS, California State University, Northridge

PhD, University of California, Davis

Coria, Alfredo - *Investigator, University Personnel* (2018)

BA, Sonoma State University

JD, University of California Hastings of the Law

Correa-Morris, Carole - *Director of Data and Resource Management* (1990)

BA and BS, San Jose State University

Craig, Richard - *Professor, Journalism and Mass Communications* (2000)

BA, University of California, San Diego

PhD, University of Illinois at Urbana-Champaign

Craighead, Jamie - *Women's Basketball Head Coach, Women's Basketball* (2013)

BA, University of Oregon

Cross, Eric - *Parking Manager* (2018)

BS, Austin Peay State University

MPA, University of Phoenix

Crowe, Molly A. - *Manager, Academic Resources, College of Engineering* (2002)

BA

Crunk, Steven - *Professor, Mathematics* (2001)

MS, California State University, Northridge

PhD, University of Pennsylvania

Currin-Percival, Mary - *Assistant Professor, Political Science* (2012)

PhD, University of California, Riverside

Curry-Rodriguez, Julia - *Associate Professor, Chicana and Chicano Studies* (2000)

BA, University of California, Santa Barbara

MA and PhD, University of Texas at Austin

Cushing, Katherine - *Professor and Director of the Office of Sustainability, Environmental Studies* (2003)

BS, Northwestern University

MS and PhD, Stanford University

Czerwinski, David - *Associate Professor, Marketing and Business Analytics* (2008)

BS, Stanford University

PhD, Massachusetts Institute of Technology

## D

D'Alarcao, Marc - *Dean, College of Graduate Studies* (2007)

BS, Bridgewater State College

PhD, University of Illinois at Urbana-Champaign

D'Andrade, Amy - *Professor, School of Social Work* (2003)

MA and PhD, University of California, Berkeley

Da Silva, Nancy - *Professor and Director, School of Management* (2000)

BS, University of Toronto, Canada

MA and PhD, University of Houston

Daley, Eileen - *Senior Associate Athletics Director, Student-Athlete Academic Services* (2005)

BA, Sonoma State University

MA, John F. Kennedy University

Danh, Binh - *Assistant Professor, Art and Art History* (2006)

PhD, Stanford University

Daniels, Sonja - *Associate Vice President, Campus Life* (2016)

AA, Tyler Junior College

BBA, Texas Christian University

MA, New York University

DED, University of Southern California

Danzig, Arnold - *Professor and Director, Educational Leadership* (2013)

MA and PhD, University of Maryland

Dao, Michael - *Assistant Professor, Kinesiology* (2019)

BS and MA, San Jose State University



PhD, University of Toronto, Canada

Darrah, Chuck - *Professor, Anthropology* (1979)

PhD, Stanford University

Daum, David - *Assistant Professor, Kinesiology* (2015)

BA and MA, California State University, Chico

PhD, University of Illinois at Urbana-Champaign

Davis, Kathryn - *Professor, Environmental Studies* (2001)

BA and MA, San Francisco State University

PhD, University of California, Berkeley

Davoudi Kakhki, Fatemeh - *Assistant Professor, Technology* (2018)

PhD, Iowa State University

Dawkins, Denise - *Assistant Professor, Nursing* (2019)

BS, City University of New York, Hunter College

MS, California State University, Bakersfield

PhD, California State University, Northern California Consortium (DNP)

Day, Patrick - *Vice President, Student Affairs* (2018)

MED, Texas Tech University

De Giorgi, Alessandro - *Professor and Program Coordinator, Justice Studies* (2007)

PhD, Keele University, United Kingdom

De La Cruz, Teresa - *Director of Education Opportunity Program* (2006)

BA and MA, San Francisco State University

Delacruz, John - *Associate Professor, Journalism and Mass Communications* (2012)

BA, Humber Polytechnic

MA, Manchester Metropolitan University

Deiss, Margaret - *University Bursar, Bursar's Office* (2011)

BS, Fordham University

Del Casino, Vincent - *Provost and Senior Vice President, Academic Affairs* (2019)

BA, Bucknell University

MS, University of Wisconsin-Madison

PhD, University of Kentucky

Desalvo, Jean-Luc - *Professor, World Languages and Literatures* (1995)

PhD, University of Virginia

Dessouky, Yasser - *Professor and Chair, Industrial and Systems Engineering* (1997)

BS, University of Wisconsin, Madison

MS and PhD, Arizona State University

DeVries, Maya - *Assistant Professor, Biological Sciences* (2020)

PhD, University of California, Berkeley

Deyo, Darwynn - *Assistant Professor, Economics* (2017)

BS, Saint Mary's College of California

MA and PhD, George Mason University

Dhar, Subhankar - *Professor, Information Systems and Technology* (2001)

PhD, University of South Florida

Di Napoli, Gina - *Chief of Police, University Police* (2019)

BA, Union Institute and University, Sacramento

MA, University of Portsmouth

Diao, Minghui - *Assistant Professor, Meteorology and Climate Science* (2015)

BS, Peking University, China

PhD, Princeton University

Diridon, Sabra - *Interim Associate Vice President, Development University Advancement* (2011)

MPA, San Jose State University

Dirlam, Philip - *Assistant Professor, Chemistry* (2019)

MS, California Polytechnic State University, San Luis Obispo

PhD, University of Arizona

Diwan, Sadhna - *Professor, School of Social Work* (2005)

BA, University of Bombay, India

MS and PhD, Case Western Reserve University

Do, Hien - *Professor and Director of Student Success Center, Sociology and Interdisciplinary Social Sciences* (1992)

PhD, University of California, Santa Barbara

Donahue, Kathleen - *Executive Assistant for Administration and Operations* (2015)

BA, University of California, Santa Cruz

MED, Chapman University

Dougan, Marcelle - *Assistant Professor and Undergraduate Program Coordinator, Public Health and Recreation* (2015)

MS, Imperial College of Science

MPH, Columbia University

PhD, Harvard University

Douglas, Gordon - *Assistant Professor and Director of The Institute of Metropolitan Studies, Urban and Regional Planning* (2016)

BA and MA, University of Southern California

MSc, London School of Economics and Political Science, United Kingdom

PhD, University of Chicago

Drabble, Laurie - *Interim Associate Dean, Research* (2001)

MSW, California State University, Long Beach

MPH and PhD, University of California, Berkeley

Drury, Robert - *Senior Director for Resource Management* (1999)

BA, California State University, Sacramento

MPA, San Jose State University

Du, Winncy - *Professor, Mechanical Engineering* (2000)

BS, Jilin University, China

MS, West Virginia University

MS and PhD, Georgia Institute of Technology

Dubus, Nicole - *Associate Professor, School of Social Work* (2015)

BA, University of California, Santa Cruz

MSW, San Francisco State University

PhD, Boston University

Duckor, Brent - *Associate Professor, Teacher Education* (2008)

BA, University of California, Santa Cruz

MA, Columbia University

MA and PhD, University of California, Berkeley

DuCros, Faustina - *Assistant Professor, Sociology and Interdisciplinary Social Sciences* (2014)

BA, California State University, Long Beach

MA and PhD, University of California, Los Angeles

Dudley, Danijela - *Assistant Professor, Political Science* (2012)

PhD, University of California, Riverside

Dudley, Nancy - *Associate Professor, Nursing* (2019)

MA, MSN, PhD, University of California, San Francisco

Duh, Shinchieh - *Associate Professor, Psychology* (2014)

BS, University of California, Los Angeles

MA, San Francisco State University

PhD, University of California, Santa Cruz

Dunn, Wendy - *Interim Director of Operations and Administrative Services, University Library* (2005)

BS, Miami University, Oxford

MA, San Jose State University

## E

Easter, Marilyn - *Professor, Marketing and Business Analytics* (2000)

BA, University of Colorado at Boulder

MSW and MA, Denver University

EdD, University of San Francisco

Eastwood, Adrienne - *Professor, English* (2005)

MA, San Diego State University

BA and PhD, University of California, San Diego

Edwards, Frances - *Professor and Director of MPA Program, Political Science* (2004)

PhD, New York University

Eggers, Daryl - *Professor, Chemistry* (2002)

BS, Rose-Hulman Institute of Technology

MS, University of California, Berkeley

PhD, University of California, San Francisco

Ehrman, Sheryl - *Dean, College of Engineering* (2017)

BS, University of California, Santa Barbara

PhD, University of California, Los Angeles

Eirinaki, Magdalini - *Professor and Associate Chair, Computer Engineering* (2007)

BSc, University of Piraeus, Greece

MSc, Imperial College, United Kingdom

PhD, Athens University of Economics and Business, Greece

Elsibai, Stacey - *Manager, Employee and Labor Relations* (2015)

BA, University of Hawaii at Manoa

Emmert, David - *Counselor II, Counseling and Psychological Services* (2007)

PhD, Alliant International University

English-Lueck, June - *Professor, Anthropology* (1991)

BA, California State University, Fresno

MA and PhD, University of California, Santa Barbara

Erdogan, Saadet - *Assistant Professor, Industrial and Systems Engineering* (2014)

BS, Istanbul Technical University, Turkey

PhD, North Carolina State University

Erogbogbo, Folarin - *Assistant Professor, Biomedical Engineering* (2013)

PhD, State University of New York, Buffalo

Escoto Reyes, Monica - *Interim Assist Dir of Cust Operations, Housing Building Maintenance* (2000)

BS, San Jose State University

Esker, Nicholas - *Assistant Professor, Chemistry* (2019)

BA, Florida Atlantic University

PhD, University of California, Berkeley

Estrada, Ignacio - *Custodial Crew Manager* (2010)

Etherington, Joshua - *Manager, Leave Programs and Worker's Compensation* (2019)

## F

Faas, A.J. - *Associate Professor and Graduate Coordinator, Anthropology* (2014)

PhD, University of South Florida

Faas, Charlie - *Vice President, Administration and Finance/Chief Financial Officer* (2016)

BBA, Siena College

MBA, University of California, Los Angeles

Fadiman, Jeffrey - *Professor, Marketing and Business Analytics* (1983)

PhD, University of Wisconsin, Madison

Falter, Benjamin - *Senior Student Affairs Case Manager* (2015)

BS, Saint Vincent College

MA, Indiana University of Pennsylvania

Fang, Chiao-Ju - *Assistant Professor, Occupational Therapy* (2018)

BS, National Taiwan University, China

MA and PhD, New York University

Fassett, Deanna - *Director, Center for Faculty Development* (2000)

BA, University of California, San Diego

MS and PhD, Southern Illinois University

Fatoohi, Rod - *Professor and Associate Chair, Computer Engineering* (1996)

MS, Syracuse University

PhD, Old Dominion University

Faulkner, Matthew - *Assistant Professor, Accounting and Finance* (2019)

PhD, Florida Atlantic University

Favaro, Francesca - *Assistant Professor, Aviation* (2016)

PhD, Georgia Institute of Technology

Fayad, Mohamed - *Professor, Computer Engineering* (2002)

BS, Cairo University, Egypt

MS and PhD, University of Minnesota, Twin Cities

Feist, Gregory - *Professor, Psychology* (2006)

BA, University of Massachusetts, Amherst

PhD, University of California, Berkeley

Felton, Mark - *Professor, Teacher Education* (1999)

BA, Stanford University

PhD, Columbia University

Feng, Xi - *Assistant Professor, Nutrition, Food Science and Packaging* (2018)

PhD, Iowa State University

Ferdolage, Traci - *Senior Associate Vice President, Facilities Development & Operations* (2020)

MBA, California State University, Humboldt

Feria, Cary - *Associate Professor, Psychology* (2008)

BA, University of California, Santa Barbara

MA and PhD, University of California, Irvine

Ferguson, Jason - *IT Support Manager, Desktop Support* (1996)

BA and BS, San Jose State University

Fernández, Vanessa - *Assistant Professor and Teaching Associate Program Coordinator, World Languages and Literatures* (2016)

BA, Princeton University

MEd, Columbia University

MA and PhD, University of California, Los Angeles

Ferris, Braley - *Associate Director, Marketing and Membership* (2018)

BA, University of Michigan, Ann Arbor

Fletcher, Shaun - *Assistant Professor, Journalism and Mass Communications* (2018)

BS, San Jose State University

MA, University of Central Florida

PhD, Howard University

Fosdick, Scott - *Professor, Journalism and Mass Communications* (2005)

PhD, Northwestern University

Fouad, Ashraf - *Senior Director, Plan Design and Construction* (2016)

MA, University of California, Berkeley

Francique, Akilah - *Executive Director, Sports, Society, and Social Change* (2019)

BS, University of Houston

MED and PhD, University of Georgia

Francisco, Richard - *Counselor III, Counseling and Psychological Services* (1997)

PhD, University of Oregon

Franks, Patricia - *Professor, School of Information* (2009)

BS, Bloomsburg University

MASS, Binghamton University

PhD, Capella University

Frazier, Stefan - *Associate Professor, Linguistics and Language Development* (2005)

MA, San Francisco State University

PhD, University of California, Los Angeles

Freedman, Marjorie - *Professor, Nutrition, Food Science and Packaging* (2005)

PhD, University of California, Davis

French, Rachael - *Associate Professor, Biological Sciences* (2010)

BS, University of California, Davis

PhD, University of Washington

Frey, Shirley - *Creative Director, Strategic Communication and Marketing* (2011)

BS, California Polytechnic State University, San Luis Obispo

MFA, L'Ecole des Beaux-Arts

Froehlich, Alexandra - *Director, Student Conduct and Ethical Development* (2017)

BA, Loyola Marymount University

MA, University of the Pacific

Fryer, Dashiell - *Assistant Professor, Mathematics* (2015)

BS and BA, San Jose State University

PhD, University of Illinois at Urbana-Champaign

Fujimoto, Kell - *Director, Counseling and Psychological Services* (2002)

BA and MED, University of Hawaii at Manoa

PhD, Argosy University, Honolulu

Furman, Burford - *Professor, Mechanical Engineering* (1994)

BS and MS, University of California, Davis

PhD, Stanford University

Furman, Pablo - *Professor and Coordinator, Music and Dance* (1989)

PhD, University of California, Los Angeles

Fusaro, Maria - *Associate Professor, Child and Adolescent Development* (2012)

Med and PhD, Harvard University



## G

Gabet, Manny - *Professor, Geology* (2007)

PhD, University of California, Santa Barbara

Gaglia, Sela - *Director of Development, College of Engineering* (2015)

BA and MFA, San Diego State University

Gamblin, Kim - *Associate Director, Purchasing and Payments* (2012)

AA, West Valley College

BA, University of California, Santa Cruz

Gao, Ge - *Professor, Communication Studies* (1990)

PhD, Arizona State University

Gao, Jerry - *Professor, Computer Engineering* (1997)

BS, Nanjing University, China

BS, Hohai University, China

MS and PhD, University of Texas at Arlington

Gao, Jie - *Assistant Professor, Hospitality, Tourism and Event Management* (2019)

PhD, Pennsylvania State University

Garcia, Alberto - *Assistant Professor, History* (2017)

BA, University of California, Davis

MA, Stanford University

MA and PhD, University of California, Berkeley

Garcia, Alejandro - *Professor and Project Director of the Physics Foundation, Physics and Astronomy* (1989)

PhD, University of Texas at Austin

Garcia, Carlos - *Professor, Sociology and Interdisciplinary Social Sciences* (2006)

PhD, University of Oklahoma, Norman

Garcia, Tony - *Interim Manager, Recruitment and Retention* (2001)

BS, San Jose State University

Gardner, Bruce - *Interim IT Support Manager, College Support* (2002)

BA, San Jose State University

Garud Patkar, Nisha - *Assistant Professor, Journalism and Mass Communications* (2018)

PhD, Ohio University

Gaudinski, Julia - *Director of Research Development* (2019)

BS, University of California, Santa Cruz

PhD, University of California, Irvine

Gavino, Monica - *Associate Professor, School of Management* (2016)

PhD, University of Chicago

Gehrt, Kenneth - *Professor, Marketing and Business Analytics* (2002)

PhD, University of Kentucky

Geller, Jonathan - *Professor, Moss Landing Marine Lab* (1998)

BS and MS, University of California, Davis

PhD, University of California, Berkeley

Gendzel, Glen - *Professor and Chair, History* (2005)

BA, University of California, Berkeley

MA and PhD, University of Wisconsin, Madison

Genes, Marna - *Senior Associate Vice President, Finance* (2010)

BA, University of California, Santa Cruz

MS, San Jose State University

Geraci, Steve - *Manager, Academic Resources, College of Science* (2002)

BA, California State University, Chico

Gerami, Shahin - *Professor and Director, Sociology and Interdisciplinary Social Sciences* (2006)

JD, University of Tehran, Iran

PhD, University of Oklahoma

Gerrick, Alexandria - *Counselor I, Counseling and Psychological Services* (2013)

PhD, Chicago School of Professional Psychology

Ghatak, Sambuddha - *Assistant Professor, Justice Studies* (2017)

PhD, University of Tennessee

Gieng, John - *Assistant Professor, Nutrition, Food Science and Packaging* (2017)

BS, University of California, Berkeley

PhD, Pennsylvania State University

Giron, Daan - *Director of Development, College of Social Sciences* (2011)

BA, San Jose State University

Glazer Connolly, Amy - *Professor, Film and Theatre* (1991)

MFA, California School of the Arts

PhD

Gleixner, Stacy - *Professor and Associate Vice President, Chemical and Materials Engineering* (1998)

BS, Massachusetts Institute of Technology

MS and PhD, Stanford University

Glogoski, Carolyn - *Associate Professor, Occupational Therapy* (1988)

MA, San Jose State University

PhD, The Wright Institute

Goldston, Daniel - *Professor, Mathematics* (1983)

PhD, University of California, Berkeley

Golloher, Andrea - *Assistant Professor, Special Education* (2013)

BA, Washington University, Saint Louis

Med, Vanderbilt University

PhD, University of California, Berkeley and San Francisco State University

Gomez, Jonathan - *Assistant Professor, Chicana and Chicano Studies* (2018)

BA and PhD, University of California, Santa Barbara

Gomez, Luis Felipe - *Associate Professor, Communication Studies* (2012)

BA, Tecnológico de Monterrey, Mexico

MA, Katholieke Universiteit Leuven, Belgium

PhD, University of Texas at Austin

Gomez, Vicky - *Assistant Professor, Public Health and Recreation* (2018)

PhD, University of California, Berkeley

Gonzales, Deanna - *Director, Undergraduate Admissions and Outreach* (1989)

Gonzales, Valerie - *Associate Director for Digital Engagement, Alumni and Community Engagement* (2002)

AA, De Anza College

BA and MA, San Jose State University

Gonzalez, Roberto - *Professor and Chair, Anthropology* (2001)

PhD, University of California, Berkeley

Gorman-DaRif, Meghan - *Assistant Professor, English* (2019)

PhD, University of Texas at Austin

Gorman, Mike - *Associate Professor, School of Social Work* (1999)

MPH and MSW, University of California, Berkeley

PhD, University of Chicago

Gottlieb, Andrea - *Associate Professor, Mathematics* (2012)

PhD, University of California, Davis

Goyal, Deepika - *Professor, Nursing* (2002)

BS and MS, San Jose State University

PhD, University of California, San Francisco

Grace, Elizabeth - *Professor and Chair, Accounting and Finance* (1986)

PhD, University of Pennsylvania

Graham, Michael - *Professor, Moss Landing Marine Lab* (2003)

BA, University of California, Santa Barbara

MS, San Jose State University

PhD, University of California, San Diego

Grand, Maxime - *Assistant Professor, Moss Landing Marine Lab* (2018)

BS, University of Hawaii at Manoa

MS, University of Plymouth, United Kingdom

PhD, University of Hawaii at Manoa

Green, Tonja - *Program Director, College of Science* (2008)

MA, San Jose State University

Greenwood, William - *Assistant Professor, Civil and Environmental Engineering* (2018)

PhD, University of Michigan, Ann Arbor

Greet, Erika - *Assistant Director, Ceremonies and Events* (2019)

Gregg, Jennifer - *Professor, Psychology* (2004)

PhD, University of Nevada-Reno

Grillo-Hill, Bree - *Assistant Professor, Biological Sciences* (2016)

BA, Occidental College

PhD, Washington University, Saint Louis

Guel, Carolyn - *Associate Director, Financial Aid Counseling* (2000)

BA, San Jose State University

MA, John F. Kennedy University

Guerrazzi, Diane - *Professor, Journalism and Mass Communications* (2008)

BA, University of California, Berkeley

PhD, University of Southern California

Guzun, Gheorghe - *Assistant Professor, Computer Engineering* (2017)

BS, Technical University of Moldova, Moldova

PhD, University of Iowa

## H

Ha, Jooyeon - *Associate Professor, Hospitality, Tourism and Event Management* (2014)

PhD, Purdue University

Haight, Colleen - *Professor and Interim Associate Dean, Economics* (2006)

BA, University of California, Los Angeles

MBA, Notre Dame de Namur University

PhD, George Mason University

Hajikhameneh, Aidin - *Assistant Professor, Economics* (2018)

BS and MS, University of Tehran, Iran

PhD, Simon Fraser University, Canada

Halualani, Rona - *Professor, Communication Studies* (1998)

BA, University of California, Davis

MA, Sacramento State University

PhD, Arizona State University

Halushka, John - *Assistant Professor, Justice Studies* (2017)

BA, University of California, Berkeley

PhD, New York University

Ham, Michiel - *Lead Project Manager* (1982)

Hambaba, Mohamed - *Professor, General Engineering* (1996)

PhD, Stevens Institute of Technology

Hambrook, Kyle - *Assistant Professor, Mathematics* (2018)

BS, University of Lethbridge, Canada

MS and PhD, University of British Columbia, Canada

Hamedi-Hagh, Sotoudeh - *Professor, Electrical Engineering* (2005)

PhD, University of Toronto, Canada

Hamilton, Scott - *Professor, Moss Landing Marine Lab* (2011)

BA, Princeton University

PhD, University of California, Santa Barbara

Hampton, Michelle - *Associate Professor, Nursing* (2018)

PhD, University of California, San Francisco

Han, Crystal - *Assistant Professor, Mechanical Engineering* (2018)

PhD, Stanford University

Han, KyungMo - *Professor and Director of Professional Athletic Training Program, Kinesiology* (2006)

BS, Seoul National University, South Korea

MA, New York University

PhD, Brigham Young University

Han, Meekyung - *Professor and Co-Chair of Institute for Community-Partnered Research, School of Social Work* (2004)

MSW, Washington University, Saint Louis

PhD, University of California, Berkeley

Han, Yoon Chung - *Assistant Professor, Design* (2018)

MFA, University of California, Los Angeles

PhD, University of California, Santa Barbara

Hancock, Mark - *Lead Custodial Crew Manager, MLK Library Facility* (2004)

Hannigan, JJ - *Assistant Professor, Kinesiology* (2019)

BS and MS, Saint Louis University

MS and PhD, University of Oregon

Hanson, Lauren - *Head Women's Soccer Coach* (2014)

BA, University of Portland

Haramaki, Gordon - *Associate Professor and Graduate Coordinator, Music and Dance* (2006)

BA, MA, and PhD, University of California, Los Angeles

Harlan, Mary Ann - *Assistant Professor, School of Information* (2015)

BA, University of California, Santa Cruz

MLIS, San Jose State University

PhD, Queensland University of Technology, Australia

Harper, Jennifer - *Title IX Investigator, Office of Diversity* (2017)

BA, American University

MA, San Diego State University

Harrer, Benedikt - *Assistant Professor, Physics and Astronomy* (2015)

MS, Ludwig-Maximilians-Universität, Germany

PhD, University of Maine

Harris, Katherine - *Professor, English* (2005)

BA, California State University, Los Angeles

MA, New York University

PhD, City University of New York

Hart, Tabitha - *Associate Professor, Communication Studies* (2012)

BA, University of California, San Diego

MA, Sacramento State University

PhD, University of Washington

Hartle, Jennifer - *Assistant Professor, Public Health and Recreation* (2016)

BA, University of California, Berkeley

MS and PhD, Johns Hopkins Bloomberg School of Public Health

Harvey, James - *Director, Moss Landing* (1989)

PhD, Oregon State University

Harvey, Michael - *Assistant Professor, Public Health and Recreation* (2017)

PhD, University of California, Berkeley

Hatton, Oona - *Assistant Professor, Communication Studies* (2013)

PhD, Northwestern University

Haverfield, Marie - *Assistant Professor, Communication Studies* (2019)

PhD, Rutgers University, New Brunswick

He, Daoping - *Professor, Accounting and Finance* (2006)

PhD, University of Hawaii at Manoa

He, Lili - *Professor, Electrical Engineering* (1998)

PhD, State University of New York, Buffalo

Hebert, Christopher - *Associate Professor, Justice Studies* (1997)

PhD, Pennsylvania State University

Heiden, Lynda - *Professor and Chair, Psychology* (1990)

MS, San Jose State University

PhD, West Virginia University

Heindl, Ranko - *Associate Professor, Physics and Astronomy* (2012)

PhD, University of South Florida

Heller, Philip - *Assistant Professor, Computer Science* (2016)

BS, University of California, Berkeley

MS, San Jose State University

PhD, University of California, Santa Cruz

Hendrick, Timothy - *Associate Professor, Journalism and Mass Communications* (2003)

MA, Brigham Young University

Hicks, Deborah - *Assistant Professor, School of Information* (2018)

BA, University of King's College, Canada

MA, York University, Canada

MLIS, Dalhousie University, Canada

PhD, University of Alberta, Canada

Higgins, Silke - *Associate Librarian, University Library* (2011)

MLIS, San Jose State University

Hilde, Libra - *Professor, History* (2005)

BA, University of California, Berkeley

MA and PhD Harvard University

Hill, Henderson - *Director, Student Involvement* (2017)

BA, Tennessee State University



MA, University of Missouri, Kansas City

Hill, Patricia - *Professor and Chair, History* (1995)

BA, Southern Methodist University

MA and PhD, University of Texas at Dallas

Hill, Timothy - *Professor and Director, Information Systems and Technology* (1998)

BS and MSE, Purdue University

MBA and PhD, Indiana University, Bloomington

Hirsh, Sandra - *Associate Dean, Academics, CPGE Central Administration* (2010)

PhD, University of California, Los Angeles

Hoang, Olivia - *Assistant Professor, Civil and Environmental Engineering* (2020)

PhD, University of California, Berkeley

Hobbs, G. Craig - *Associate Professor, Art and Art History* (2012)

BFA, California Institute of the Arts

MFA, University of California, Santa Cruz

Holberton, Rhonda - *Assistant Professor, Art and Art History* (2017)

BFA, California College of the Arts

MFA, Stanford University

Holian, Matthew - *Professor, Economics* (2008)

PhD, Ohio State University

Hollenbeck, Clarie - *Professor and Graduate Research Coordinator, Nutrition, Food Sciences and Packaging* (1995)

PhD, Oregon State University

Hollinger, Diana - *Professor, Music and Dance* (2003)

MM, University of North Texas

DMA, Arizona State University

Hom, Margaret - *Associate Director, Facilities Operations* (1979)

AA, City College of San Francisco

BA, San Jose State University

Honda, Jeffrey - *Associate Dean of Graduate Studies, College of Graduate Studies* (2014)

BS, San Jose State University

MS and PhD, University of California, Riverside

Hosoda, Megumi - *Professor, Psychology* (1998)

PhD, State University of New York, Albany

Hou, Xiaojia - *Associate Professor, History* (2015)

BA and MA, Peking University, China

PhD, Cornell University

Howard, Grace - *Assistant Professor, Justice Studies* (2019)

PhD, Rutgers University, Camden

Hsu, Ping - *Professor, Electrical Engineering* (1990)

PhD, University of California, Los Angeles

Hsu, Funie - *Assistant Professor, Humanities* (2015)

BA, University of California, Davis

MEd, Harvard University

PhD, University of California Berkeley

Hsu, Tai-Ran - *Professor, Mechanical Engineering* (1990)

BS, National Cheng Kung University, China

MS, University of New Brunswick, Canada

PhD, McGill University, Canada

Hsu, Timothy - *Professor, Mathematics* (2001)

PhD, Princeton University

Hu, Xiaolu - *Professor, Counselor Education* (1990)

PhD, Kent State University

Huang, Yinghua - *Associate Professor, Hospitality, Tourism and Event Management* (2012)

BBA and MS, Xiamen University, China

PhD, Oklahoma State University

Huard, Ruth - *Dean, College of Professional and Global Studies* (2009)

BA, Claremont McKenna College

PhD, Stanford University

Huerta Espinosa, Esperanza - *Associate Professor, Accounting and Finance* (2014)

PhD, Claremont Graduate University

Hughes, Peg - *Professor, Special Education* (1999)

PhD, University of California, Los Angeles

Hung, Donald - *Professor, Computer Engineering* (1999)

PhD, Case Western Reserve University

Huntsman, Laree - *Professor, Psychology* (1986)

BA and MA, San Jose State University

PhD, University of Wisconsin, Milwaukee

Hutchins, Christine - *Senior Associate Vice President for Strategic Communications and Marketing* (2018)

BA, The University of Chicago

MBA, Massachusetts Institute of Tech

Huynh, Frank - *Assistant Professor, Biological Sciences* (2018)

PhD, University of British Columbia, Canada

Huynh, Hien - *Information Security Officer* (2014)

BA, Simon's Rock College of Bard

MS and MBA, University of Maryland University College

Hwang, Connie - *Professor, Design* (2008)

MFA, University of Washington

## I

Inaba, Seiichiro - *Professor, World Languages and Literatures* (1998)

PhD, University of Hawaii at Manoa

Ivanov, Stoyu - *Professor, Accounting and Finance* (2009)

PhD, University of Nebraska-Lincoln

Iwasaki, Yoshitaka - *Professor and Chair, Public Health and Recreation* (2018)

PhD, University of Waterloo, Canada

Izenstark, Dina - *Assistant Professor, Child and Adolescent Development* (2017)

BS, MS, and PhD, University of Illinois at Urbana-Champaign

## J

Jackson, Melinda - *Associate Dean, Undergraduate Studies* (2005)

BA, Simon's Rock College of Bard

PhD, University of Minnesota, Twin Cities

Jacobs, Walter - *Dean, College of Social Sciences* (2015)

BA, Georgia Institute of Technology

MA and PhD, Indiana University, Bloomington

Jaehne, Dennis - *Professor and AVP of Undergraduate Studies, Communication Studies* (1989)

PhD, University of Utah

Jahanbekam, Sogol - *Assistant Professor, Mathematics* (2018)

BA, Shiraz University, Iran

MS, Sharif University of Technology, Iran

PhD, University of Illinois at Urbana-Champaign

Janes, Michael - *Director, Executive Communications for Strategic Communications and Marketing* (2018)

BA, Western Washington University

MA, Seton Hall University

Jaynes, Susan - *Capital Financial Planning and Analysis Manager* (2016)

BS, Indiana University, Bloomington

Jensen, Areum - *Assistant Professor, Kinesiology* (2016)

BS, Sangmyung University, South Korea

MS, San Francisco State University

PhD, University of Missouri

Jensen, Scott - *Associate Professor, Information Systems and Technology* (2013)

PhD, Indiana University, Bloomington

Jeon, Hyeran - *Assistant Professor, Computer Engineering* (2015)

BS, Busan National University, South Korea

MS, Georgia Institute of Technology

MS, Korean University, South Korea

PhD, University of Southern California

Jeyachandran, Indumathi - *Assistant Professor, Civil and Environ Engineering* (2015)

PhD, University of Utah

Jimenez, Julie - *Director of Financial and Administrative Services* (1984)

AA, Evergreen Valley College

Jin, Li - *Assistant Professor, Kinesiology* (2019)

BS, Shanghai University of Sport, China

MS and PhD, University of Oregon

Jochim, Christian - *Professor and Director of Center for Asian Studies, Humanities* (1985)

BA, University of California, Santa Barbara

MA, University of British Columbia, Canada

PhD, University of Southern California

Johnson, Allison - *Assistant Professor, English* (2018)

PhD, University of California, Los Angeles

Johnson, Colleen - *Counselor II, Counseling and Psychological Services* (2012)

PhD, University of North Dakota

Johnson, Camille - *Associate Dean, Research and Faculty Success* (2007)

BA, Carleton College

MA, Claremont Graduate School

PhD, Ohio State University

Johnson, Joel - *Director, Web and Campus Applications* (2015)

BA, San Jose State University

Johnston, Jennifer - *Assistant Professor, Biological Sciences* (2017)

MS, Southern Illinois University

PhD, Emory University

Johnston, Matthew - *Assistant Professor, Mathematics* (2015)

BAH and MSc, University of Guelph, Canada

PhD, University of Waterloo, Canada

Jones, Frank - *Professor, Accounting and Finance* (2003)

BA and BS, University of Notre Dame

MS, Cornell University

MBA, University of Pittsburgh

PhD, Stanford University

Jones-Hayes, Sarah - *Assistant Professor, Music and Dance* (2016)

PhD, University of Michigan, Ann Arbor

Jordan, Ryan - *Assistant Athletics Director for Compliance* (2018)

JD, Marquette University Law School

BA, University of Wisconsin, La Crosse

Journey, Patrick - *Assistant Professor, Biomedical Engineering* (2019)

BS, University of Portland

MS and PhD, University of Texas at Austin

## K

Kahn, Amanda - *Assistant Professor, Moss Landing Marine Lab* (2019)

BS, California State University, East Bay

MS, California State University, Monterey Bay

PhD, University of Alberta, Canada

Kao, Katy - *Associate Professor, Chemical and Materials Engineering* (2019)

PhD, University of California, Los Angeles

Karimianbahnemiri, Nima - *Assistant Professor, Computer Engineering* (2018)

MS and PhD, University of Connecticut

Karp, Fernanda - *Deputy Diversity Officer* (2002)

BA, San Jose State University

Kassab, Lara - *Assistant Professor, Teacher Education* (2010)

BA, Holy Names University

MA California State University, Fullerton

PhD, University of San Francisco

Kato, Cynthia - *Director, Student Success Services* (2005)

MA, Purdue University

Katsuura, Hidefumi - *Professor, Mathematics* (1984)

PhD, University of Delaware

Kaufman, Michael - *Dean, College of Science* (1997)

PhD, Johns Hopkins University

Kauppila, Paul - *Associate Librarian, University Library* (2001)

BA, San Francisco State University

MLIS, University of Texas at Austin

Kazemifar, Farzan - *Assistant Professor, Mechanical Engineering* (2019)

BS, Sharif University of Technology, Iran

MS and PhD, University of Illinois at Urbana-Champaign

KC, Santosh - *Assistant Professor, Chemical and Materials Engineering* (2019)

BS and MS, Tribhuvan University, Nepal

MS and PhD, University of Texas at Dallas

Keles, Ozgur - *Assistant Professor, Chemical and Materials Engineering* (2015)

BS and MS, Middle East Technical University, Turkey

PhD, Purdue University

Kelly, Resa - *Professor and Director of Science Education, Chemistry* (2005)

BA, University of Notre Dame

BA and MA, University of Northern Iowa

MS and PhD, University of Northern Colorado

Kemnitz, Carl - *Senior Vice Provost, Academic Affairs* (2015)

PhD, University of Wisconsin

Kenyon, Paula - *Research Development Specialist, Office of Research* (2020)

BA and MA, California State University, Chico

Kersten, Trent - *Volleyball Head Coach, Women's Volleyball* (2020)

BS, University of California, Los Angeles

Khatami, Ehsan - *Associate Professor, Physics and Astronomy* (2014)

BS, Isfahan University of Technology, Iran

MS, Sharif University of Technology, Iran

PhD, University of Cincinnati

Khavul, Susanna - *Professor, School of Management* (2017)

DBA, Boston University

Kil, Sang - *Associate Professor, Justice Studies* (2007)

MA and PhD, Arizona State University

Kim, Chang - *Professor, Design* (2000)

MFA, Hongik University, South Korea

MFA, University of Illinois at Urbana-Champaign

Kim, Suneuy - *Associate Professor, Computer Science* (2001)

PhD, Pennsylvania State University

Kini, Mitesh - *Director, Enterprise Systems* (2013)

BE, Veermata Jijabai Technological Institute, India

MS, North Carolina State University

Kinney, Edith - *Associate Professor, Justice Studies* (2014)

JD and PhD, University of California, Berkeley

Kinney, Kevin - *Director of Residential Life* (2016)

BS, Bloomsburg University of Pennsylvania

MA, Montclair State College

Klaw, Elena - *Professor, Psychology* (2000)

PhD, University of Illinois at Urbana-Champaign

Klee, Gary - *Professor, Environmental Studies* (1977)

PhD, University of Oregon

Klein, Michael - *Assistant Professor, Marketing and Business Analytics* (2017)

PhD, McGill University, Canada

Klock, Metha - *Assistant Professor, Environmental Studies* (2019)

PhD, Louisiana State University

Koev, Plamen - *Professor, Mathematics* (2008)

PhD, University of California, Berkeley

Komives, Claire - *Professor, Chemical and Materials Engineering* (1999)

BS, Tufts University

MS and PhD, University of Pittsburgh

Koo, Hahn - *Associate Professor, Linguistics and Language Development* (2008)

BA, Seoul National University, South Korea

PhD, University of Illinois at Urbana-Champaign

Korani, Tina - *Assistant Professor, Journalism and Mass Communications* (2017)



BA, Art University of Tehran, Iran

MFA, Louisiana State University

Kothari, Tanvi - *Associate Professor, Global Innovation and Leadership* (2012)

BS, University of Mumbai, India

PhD, Temple University

Kraskouskas, Jennifer - *Cashiering Manager* (2017)

MBA, Boston University

Kress, Monika - *Professor and Chair, Physics and Astronomy* (2004)

BA and PhD, Rensselaer Polytechnic Institute

Krishnaswamy, Revathi - *Professor and Graduate Coordinator, English* (2994)

PhD, Kent State University

Kubelka, Richard - *Professor, Mathematics* (1983)

BA, University of California, Berkeley

MS and PhD, Stanford University

Kubota, Jamie - *Assistant Professor, Nutrition, Food Science and Packaging* (2008)

MS, San Jose State University

Kulkarni, Saili - *Assistant Professor, Special Education* (2018)

BA, Boston University

MS and PhD, University of Wisconsin, Madison

Kumar, Anil - *Associate Professor and Associate Director of Human Factor/Ergonomics, Industrial and Systems Engineering* (2015)

PhD, Western Michigan University

Kwan, Yvonne - *Assistant Professor, Sociology and Interdisciplinary Social Sciences* (2017)

PhD, University of California, Santa Cruz

## L

Lage, Kathryn - *Senior Assistant, Moss Landing Marine Lab* (2016)

BA, University of California, Santa Cruz

MLIS, San Jose State University

Laker, Jason - *Professor, Counselor Education* (2010)

PhD, University of Arizona

Lattimer, Heather - *Dean, College of Education* (2018)

DED, University of San Diego

Lambrecht, Susan - *Professor, Biological Sciences* (2004)

PhD, Oregon State University

Lane, Emily - *Director of Development, College of Science* (2016)

BA, University of California, Sacramento

LaSalle, Colette - *Assistant Professor, Nutrition, Food Science and Packaging* (2013)

PhD, University of California, Davis

Lasser, Robin - *Professor, Art and Art History* (1990)

BA, University of California, Los Angeles

MFA, Mills College

Lau, Sau Foon Feyon - *University Ombudsman, Student Services* (2019)

MA, San Jose State University

Le, Binh - *Assistant Professor, Electrical Engineering* (2019)

BS, University of California, Berkeley

MS and PhD, Stanford University

Le, Thuy - *Professor and Chair, Electrical Engineering* (1996)

BS, MS, and PhD, University of California, Berkeley

Lee, Bee Leng - *Professor, Mathematics* (2005)

BSS, National University of Singapore

MS and PhD, University of Wisconsin, Madison

Lee, Diane - *Assistant Professor, Design* (2018)

BS, University of Cincinnati

MFA, Rhode Island School of Design

Lee, Hyojin - *Assistant Professor, Marketing and Business Analytics* (2016)

BS and MS, Seoul National University, South Korea

PhD, Ohio State University

Lee, James - *Senior Director, Faculty Affairs* (2005)

BA, University of Notre Dame

MA, University of Florida

PhD, Indiana University, Bloomington

Lee, Jihyun - *Assistant Professor, Kinesiology* (2017)

BS and MS, Seoul National University

PhD, Ohio State University

Lee, Peter - *Professor and Director, School of Social Work* (1999)

MSW and PhD, University of California, Berkeley

Lee, Sang Eun - *Professor, School of Social Work* (2006)

BA, Seoul Women's University, South Korea

MSW, University of Michigan, Ann Arbor

PhD, University of California, Los Angeles

Lee, Sang-Joon - *Professor, Mechanical Engineering* (2002)

PhD, Massachusetts Institute of Technology

Lee, Steven - *Professor and Director of Forensic Science Justice Studies, Justice Studies* (2003)

BS, State University of New York, Binghamton

MS, New York University

PhD, University of California, Berkeley

Lee, Wei-Chien - *Counselor III, Counseling and Psychological Services* (2004)

PhD, Purdue University

Lee, Wendy - *Assistant Professor, Computer Science* (2014)

BS, University of Waterloo, Canada

MS, San Jose State University

MS and PhD, University of California, Santa Cruz

LeFever, James - *Director, Technology* (1984)

San Francisco State University

Leineweber, Matthew - *Assistant Professor, Biomedical Engineering* (2017)

BS, University of Portland

MS and PhD, Cornell University

Leisenring, Amy - *Associate Dean, Inclusive Student Success, College of Graduate Studies* (2016)

BA, Miami University, Ohio

MA, New Mexico State University

PhD, University of Colorado

Lemon Osterling, Kathy - *Associate Professor, School of Social Work (2006)*

BA, University of California, Santa Cruz

MSW, San Jose State University

PhD, University of California, Berkeley

Lester, Gretchen - *Associate Professor, School of Management (2012)*

PhD, University of Nebraska-Lincoln

Lester, Thomas - *Associate Professor, Urban and Regional Planning (2019)*

Li, Hua - *Professor, Computer Engineering (1997)*

BS, Tianjin University, China

MS and PhD, University of Iowa

Li, Kara - *Associate Vice President for Strategic Planning and Portfolio (2016)*

BBA, Georgia State University

Li, Zongchao - *Assistant Professor, Journalism and Mass Communications (2016)*

PhD, University of Miami

Liberty, Barbara - *Records and Communications Manager (2020)*

AA, Cabrillo College

Lim, Bob -- *Vice President, Information Technology and Chief Information Officer*

MBA, Saint Mary's College of California

Lington, Aaron - *Professor, Music and Dance (2004)*

BM, University of Houston

MM and DMA, University of North Texas

Lira, Leonard - *Assistant Professor, Political Science (2017)*

BA, Sam Houston State University

MA, Syracuse University

PhD, University of Kansas

Liu, Hongrui - *Assistant Professor, Industrial and Systems Engineering (2017)*

PhD, University of Washington

Liu, Kaikai - *Assistant Professor, Computer Engineering (2015)*

PhD, University of Florida

Liu, Geoffrey - *Professor, School of Information* (2995)

BA and MA, Wuhan University, China

PhD, University of Hawaii at Manoa

Liu, Rui - *Associate Professor, Economics* (2013)

BS, Nankai University, China

MS, City University of Hong Kong, Hong Kong

PhD, University of California, Irvine

Liu, Xiaojing - *Assistant Professor, Nutrition, Food Science and Packaging* (2016)

BA and PhD, Wuhan University of Technology, China

Liu, Ziming - *Professor, School of Information* (2000)

MS, Zhongshan University, China

PhD, University of California, Berkeley

Liz, Jordan - *Assistant Professor, Philosophy* (2018)

PhD, University of Memphis

Loatfi, Morgan - *Lead Project Manager* (2017)

BS, West Virginia University

Loertscher, David - *Professor, School of Information* (1996)

BS, University of Utah

ML, University of Washington

PhD, Indiana University, Bloomington

Lombardi, Paul-Vincent - *Assistant Professor, Economics* (2018)

PhD, University of California, Irvine

Long, Avizia - *Assistant Professor, World Languages and Literatures* (2018)

BA, University of North Carolina at Chapel Hill

MA, North Carolina State University

MA and PhD, Indiana University

Lomba, Arvinder - *Professor, Global Innovation and Leadership* (1999)

BMe, Bangalore University, India

MBA, California State University, East Bay

PhD, University of Southern California

Loomis, John - *Professor, Design* (2008)

MA, Columbia University

Lopez-Arreola, Juanita - *Academic Resource, College of Education* (2001)

BA and MPA, San Jose State University

Louie, Therese - *Professor, Marketing and Business Analytics* (2003)

PhD, University of California, Los Angeles

Love, Matthew - *Assistant Professor, Special Education* (2018)

BS, MEd, and PhD, University of Nevada, Las Vegas

Love, Robin - *Associate Professor, Child and Adolescent Development* (1988)

MA, University of California, Berkeley

PhD, Stanford University

Lowe, Carli - *Senior Assistant, University Library* (2019)

MLIS, University of Illinois at Urbana-Champaign

Lu, Mei-Yan - *Professor, Educational Leadership* (1988)

MA, University of Wisconsin, River Falls

PhD, Arizona State University

Luo, Lili - *Professor, School of Information* (2007)

BA and MS, Peking University, China

PhD, University of North Carolina at Chapel Hill

Lustigman, Lyle - *Assistant Professor, Communicative Disorders and Sciences* (2016)

BA, MA, and PhD, Tel Aviv University, Israel

Luu, Raymond - *Associate Director of Commercial Services* (2019)

BS, San Francisco State University

Ly, Anh - *Director of Development, Dr. Martin Luther King, Jr. Library* (2017)

PhD, Northwestern University

## M

Ma-Kellams, Christine - *Assistant Professor, Psychology* (2019)

BA, University of California, Berkeley

PhD, University of California, Santa Barbara

Maciejewski, Wesley - *Assistant Professor, Mathematics* (2016)

BSc, University of Alberta, Canada

University Calgary, Canada

PhD, Queen's University, Canada

Madadi, Mahboubeh - *Assistant Professor, Marketing and Business Analytics* (2019)

BS, Shahid Beheshti University, Iran

MS, University of Tehran

MS, University of Arkansas

PhD, University of Arkansas

Madura, Thomas - *Assistant Professor, Physics and Astronomy* (2016)

PhD, University of Delaware

Maffini, Cara - *Associate Professor, Child and Adolescent Development* (2014)

BA and BS, University of California, Davis

MA, Sacramento State University

PhD, Indiana University, Bloomington

Maguire, Matthew - *Assistant Professor, School of Management* (2018)

BA, Cornell University

MSc, London School of Economics and Political Science

PhD, Boston University

Mahendra, Nidhi - *Associate Professor, Communicative Disorders and Sciences* (2016)

PhD, University of Arizona

Main, Linda - *Professor, School of Information* (1985)

BA and MA, University of Dublin, Ireland

MLIS, University of Wales

PhD, University of Illinois at Urbana-Champaign

Malinowski, David - *Assistant Professor, Linguistics and Language Development* (2018)

BA, University of California, Berkeley

MA, San Francisco State University

PhD, University of California, Berkeley

Malloy, Suzanne - *Professor and Undergraduate Coordinator, Nursing* (1981)

BSN, University of Utah

MSN, University of Nebraska-Omaha

PhD, Nova University

Malutta, Jennifer - *Director of Local and State Relations* (2019)

BA, University of Kansas

Manuel, Anita - *Associate Director of Career Education* (2004)

BA, University of California, Santa Barbara

MA, Santa Clara University

Marachi, Roxana - *Associate Professor, Teacher Education* (2006)

BS, University of Washington

MA and PhD, University of Michigan, Ann Arbor

Marbouti, Farshid - *Assistant Professor, General Engineering* (2016)

BS, Sharif University of Technology, Iran

MS, Amirkabir University of Technology, Iran

MA, Simon Fraser University, Canada

PhD, Purdue University

Marota, Cynthia - *Director, Accessible Education Center* (1993)

BA, San Jose State University

Marouf, Essam - *Professor, College of Engineering* (1990)

PhD, Stanford University

Marsh, Eleanor - *Associate Professor, World Languages and Literatures* (2007)

PhD, University of California, Davis

Marx, Robert - *Assistant Professor, Child and Adolescent Development* (2019)

BA, Brandeis University

MAT, Boston University

PhD, Vanderbilt University

Mashinchi, Kenneth - *Senior Director of Media Relations* (2020)

BA, California State University, Stanislaus



MS, University of Southern California

Massey, Kimberly - *Professor and Associate Chair, Film and Theatre* (1987)

BS, University of Texas at Austin

MA, San Francisco State University

PhD, University of Utah

Masucci, Matthew - *Interim Associate Dean, College of Health and Human Sciences* (2002)

BA, Salisbury University

MA, Ohio University

PhD, University of Tennessee

Mathias, Harold - *Associate Professor, Film and Theatre* (2012)

BA and MA, San Francisco State University

Mathur, Gita - *Professor, School of Management* (2002)

BTech and MTech, Indian Institute of Technology, India

MBA, University of California, Berkeley

PhD, Rensselaer Polytechnic Institute

DBA, Harvard University

Mathur, Ravisha - *Associate Professor, Child and Adolescent Development* (2002)

BS, Pennsylvania State University

MA and PhD, Purdue University

Mathur, Shishir - *Professor, Urban and Regional Planning* (2004)

BA, Regional Engineering College Tiruchirappalli, India

MUP, School of Planning and Architecture, India

PhD, University of Washington

Mattarelli, Elisa - *Associate Professor, School of Management* (2019)

MS, University of Bologna, Italy

PhD, University of Padova, Italy

Mauldin, Kasuen - *Associate Professor, Nutrition, Food Science & Packaging* (2011)

BS and PhD, Southern Methodist University

PhD, University of California, Berkeley

McClusky, John - *Professor, Design* (2002)

BS, University of Cincinnati

MA, Ohio State University

McConnell, Kathleen - *Professor, Communication Studies* (2009)

BA, Evergreen State College

MA, Bowling Green State University

PhD, Indiana University, Bloomington

McCullough, June - *Professor, Communicative Disorders and Sciences* (1989)

BA and MA, California State University, Fullerton

PhD, University of Iowa

McDonald, Birgitte - *Assistant Professor, Moss Landing Marine Lab* (2015)

MA, Sonoma State University

PhD, University of California, Santa Cruz

McElroy, Coleetta - *Director of Financial Aid and Scholarships* (1988)

BA, California State University, Long Beach

McGahee, Bonnie - *Assistant Director of Residential Life* (2018)

MS, University of Baltimore

McGee, Elizabeth - *Professor, Biological Sciences* (1997)

BA and MA, University of California, Berkeley

MA and PhD, State University of New York, Stony Brook

McGiven, Kevin - *Football Assistant Coach/Offensive Coordinator* (2018)

BSA, Utah Valley University

MS, Brigham Young University

McKee, Alison - *Professor and Vice Chair, Film and Theatre* (2002)

BA and MA, University of California, Santa Barbara

PhD, University of California, Los Angeles

McKenzie, Craig - *Assistant Professor, Music and Dance* (2018)

BM, University of Colorado at Boulder

MA, San Jose State University

McMullin, Kurt - *Professor, Civil and Environmental Engineering* (1996)

BS, Iowa State University

MS and PhD, University of California, Berkeley

McNabb, Richard - *Professor, Associate Chair and Writing Programs Administrator, English* (2014)

PhD, University of Arizona

McNeil, Melanie - *Professor, Chemical and Materials Engineering* (1990)

BS, MS, and PhD, University of California, Santa Barbara

McSharry, Kathleen - *Professor, English* (2015)

PhD, University of Wisconsin, Madison

Mcvey, Mary - *Professor and Associate Dean, Child and Adolescent Development* (1992)

PhD, Stanford University

Mead-Nytko, Danielle - *Assistant Professor, Child and Adolescent Development* (2016)

BS, University of Mary Washington

MA and PhD, George Mason University

Medders, Carrie - *Senior Director, Tech and Training* (1998)

BS, Arizona State University

MS, West Virginia University

Megwalu, Anamika - *Senior Assistant, University Library* (2016)

PhD, Long Island University, Brooklyn

Meldal, Sigurd - *Professor, Computer Engineering* (2002)

PhD, University of Oslo, Norway

Memarzadeh, Faranak - *Assistant Professor, Hospitality, Tourism and Event Management* (2015)

PhD, Texas Tech University

Mena, Dolores - *Professor and Chair, Counselor Education* (2005)

PhD, University of California, Santa Cruz

Mendoza, Valerie - *Associate Professor, Art and Art History* (2004)

BFA, San Jose State University

MFA, California College of Arts and Crafts

Meniketti, Marco - *Professor, Anthropology* (2006)

BA, University of California, Berkeley

MA, Michigan State University

MS, Michigan Technological University

PhD, Michigan State University

Merz, Michael - *Professor and Chair, Marketing and Business Analytics* (2008)

PhD, University of Hawaii at Manoa

Merz, Miwa - *Associate Professor, Marketing and Business Analytics* (2011)

PhD, University of Hawaii at Manoa

Meshcheryakov, Artem - *Assistant Professor, Accounting and Finance* (2015)

BA, Volgograd State Technical University, Russia

MBA, Marshall University

PhD, Texas Tech University

Metzger, Ellen - *Professor, Geology* (1989)

PhD, Syracuse University

Middaugh, Ellen - *Assistant Professor, Child and Adolescent Development* (2014)

BA, George Washington University

PhD, University of California, Berkeley

Miller, Cathleen - *Professor, English* (2004)

MFA, Pennsylvania State University

Miller, Jonathan - *Professor, Geology* (1999)

PhD, University of North Carolina

Miller, Shannon - *Dean, College of Humanities and Arts* (2014)

BA, Dartmouth College

MA and PhD, University of California, Santa Barbara

Miller Conrad, Laura - *Assistant Professor, Chemistry* (2014)

BA, Macalester College

PhD, University of California, Berkeley

Millora, Lisa - *Chief of Staff* (2019)

BA and MA, Boston College

MA and PhD, University of California, Los Angeles

Mir, Nader - *Professor, Electrical Engineering* (2001)

MS and PhD, Washington University, Saint Louis

Miranda, Celinda - *Counselor II, Counseling and Psychological Services* (2015)

MSW, San Jose State University

MDI, American Baptist Seminary of the West

Miranda-Ramirez, Elisha - *Associate Professor and Chair, Film and Theatre* (2018)

MFA, Columbia University

Mitchell, Linda - *Professor, English* (1998)

PhD, University of Southern California

Mitchler, Joseph - *Tower Card Manager* (2018)

BS, San Jose State University

Moh, Melody - *Professor and Interim Chair, Computer Science* (1991)

PhD, University of California, Davis

Moh, Teng-Sheng - *Professor, Computer Science* (2004)

PhD, University of California, Davis

Mohlenhoff, Mark - *Student Affairs Case Manager* (2017)

BA, Cornell University

MED, Colorado State University

Mok, Gwendolyn - *Professor, Music and Dance* (2003)

BA, Yale University

MM and DMA, State University of New York, Stony Brook

Monday, Nyle - *Librarian, University Library* (2005)

BA, University of Hawaii at Manoa

MA, California State University, Bakersfield

MS, San Jose State University

Monsur, Seham - *Senior Director of Academic Budgeting and Administration* (2003)

BA, San Jose State University

Moore, Dorothy - *Assistant Professor, Nursing* (2018)

DNP, California State University, Fresno

Morelos-Zaragoza, Robert - *Professor, Electrical Engineering* (2002)

BSEE and MSEE, National Autonomous University of Mexico, Mexico

PhD, University of Hawaii at Manoa

Moriarty, Thomas - *Professor, English* (2014)

PhD, Purdue University

Morris, Susannah - *Director, Study Abroad and Away* (2016)

MA, School for International Training

Morris, Nicole - *Director of Cleary and Drug-Free Schools and Communities Act Compliance* (2019)

BA and MS, Portland State University

Moshavi, Dan - *Dean, College of Business* (2017)

BA and MBA, George Washington University

PhD, University of Oregon

Mou, Bo - *Professor, Philosophy* (2000)

PhD, University of Rochester

Mourtos, Nikos - *Professor and Chair, Aerospace Engineering* (1985)

BS, University of Patras, Greece

MS and PhD, Stanford University

Mullin, Deborah - *Manager, Academic Resources, College of Social Sciences* (2016)

Mullen, Elizabeth - *Associate Professor, School of Management* (2015)

PhD, University of Illinois at Chicago

Muller, Gilles - *Professor, Chemistry* (2012)

BS and MS, University Louis Pasteur, France

PhD, University of Lausanne, Switzerland

Mullin, Jim - *Custodial Crew Manager* (2016)

Mulvaney, Dustin - *Associate Professor, Environmental Studies* (2011)

BA and MS, New Jersey Institute of Technology

PhD, University of California, Santa Cruz

Mune, Christina - *Associate Dean, Innovation and Research Management, University Library* (2012)

MLIS, San Jose State University

Munoz-Munoz, Eduardo - *Assistant Professor, Teacher Education* (2014)

MA, University of California, Berkeley

MA and PhD, Stanford University

Murphy, Veronica - *Director, Donor Relations and Stewardship* (2006)

BA, San Jose State University

Myers-Lipton, Scott - *Professor, Sociology and Interdisciplinary Social Sciences* (1999)

MA, San Francisco State University

PhD, University of Colorado at Boulder

## N

Nathan-Roberts, Dan - *Assistant Professor, Industrial and Systems Engineering* (2014)

BS, University of Rochester

MSE and PhD, University of Michigan

Ndon, Udem - *Professor, Civil and Environmental Engineering* (1996)

PhD, University of Iowa

Nellen, Annette - *Professor and Director of MST Program, Accounting and Finance* (1990)

BS, California State University, Northridge

MBA, Pepperdine University

JD, Loyola Law School

Nelson, Joshua - *Associate Professor, Design* (2013)

MA, University of Washington

Ng, Ho-Kuen - *Professor, Mathematics* (1984)

PhD, University of California, Berkeley

Nguyen, Leon - *IT Program Director, Strategic Plan and Portfolio Management* (1999)

BA, San Jose State University

Nguyen, Ngoc - *Assistant Parking Manager* (2002)

AS, Mission College

BS, San Jose State University

Nguyen, Nancy - *Associate Director of Student Involvement* (2015)

BS, University of the Pacific

MA, San Diego State University

Nieva Jr., Norberto - *Chief Engineer* (2019)

BSEE, Adamson University

MBA, University of Phoenix

Norris, Keenan - *Assistant Professor, English* (2017)

PhD, University of California, Riverside

Novak, Jean - *Professor, Communicative Disorders and Sciences* (1991)

PhD, University of California, Berkeley

Nymeyer, Matt - *Director, Environmental Health and Safety* (2014)

BS, Northern Arizona University

MS, Arizona State University

## O

O'Brien, Stephen - *Deputy Director, Athletics* (2017)

BA, Santa Clara University

JD, University of Southern California

Obaid, Samih - *Professor, Mathematics* (1985)

PhD, Pennsylvania State University

Oberdorfer, June - *Professor, Geology* (1983)

PhD, University of Hawaii at Manoa

Obi, Samuel - *Professor and Director, Technology* (1989)

BS and MS, Southeastern Oklahoma State University

PhD, University of Northern Iowa

O'Dell, Shaun - *Assistant Professor, Art and Art History* (2019)

MFA, Stanford University

O'Leary-Kelley, Colleen - *Professor and Clinical Simulation Coordinator, Nursing* (2001)

BS, Mount Saint Mary's University

MS and PhD, University of California, San Francisco

O'Malley, Rachel - *Professor, Environmental Studies* (1998)

PhD, University of California, Santa Cruz

O'Rorke, Ryan - *Assistant Athletics Director for Marketing* (2018)

BA, University of North Carolina at Chapel Hill

Odum, Derrick - *Assistant Football Coach/Defensive Coordinator* (2016)



BS, University of Utah

Oh, Dahyun - *Assistant Professor, Chemical and Materials Engineering* (2017)

BS, Seoul National University, South Korea

PhD, Massachusetts Institute of Technology

Okamoto, Nicole - *Professor and Chair, Mechanical Engineering* (2001)

PhD, University of Illinois at Urbana-Champaign

Okuda, Roy - *Professor, Chemistry* (1990)

BA, University of California, San Diego

PhD, University of Hawaii

Oliver, Lisa - *Associate Professor, Counselor Education* (2002)

MA, San Jose State University

PhD, Stanford University

Olson, Katharine - *Assistant Professor, History* (2016)

PhD, Harvard University

Olson, Nathan - *Athletics Annual Giving Officer, External Athletic Operations* (2019)

BA, University of Minnesota, Morris

MED, University of Washington

Onita, Colin - *Assistant Professor, Accounting and Finance* (2018)

BBA, Academy of Economic Studies, Romania

MSc, Fogelman College of Business and Economics

PhD, University of Memphis

Onkvisit, Sak - *Professor, Marketing and Business Analytics* (1986)

PhD, University of Kentucky

Ormsbee, Todd - *Associate Professor, Humanities* (2005)

MA and PhD, University of Kansas

Osland, Asbjorn - *Professor, Global Innovation and Leadership* (2002)

PhD, Case Western Reserve University

Ostovari, Pouya - *Assistant Professor, Technology* (2017)

PhD, Temple University

Ottoes, Scott - *Director, IT Program Management and Communications* (2018)

BS, University of Wyoming

Ouverney, Cleber - *Professor, Biological Sciences* (2005)

BS, Occidental College

MS, California State University, East Bay

PhD, University of Southern California

Oyamot, Clifton - *Professor and Chair, Psychology* (2005)

BA, Reed College

PhD, University of Minnesota, Twin Cities

Ozemek, Haluk - *Professor, Computer Engineering* (1982)

PhD, University of Arkansas, Fayetteville

## P

Pagani, Marco - *Associate Dean, Lucas College and Graduate School of Business* (2006)

MS, University of Montreal

PhD, Georgia State University

Paisant, Julie - *Senior Director, Employee Relations, Retention, and Equal Opportunity* (2012)

Pala, Atulkumar - *Associate Director, Computing Services* (2006)

BA, Foreign Institution

Palmer, Evan - *Associate Professor, Graduate Coordinator, and Director of Learning, Attention, Vision & Application Lab, Psychology* (2016)

BA, MA, and PhD, University of California, Los Angeles

Panahi, Maggie - *IT Project Director* (2015)

PhD, University of San Francisco

Papadopoulos, Periklis - *Professor, Aerospace Engineering* (1998)

PhD, Stanford University

Parent, David - *Professor, Electrical Engineering* (1999)

BS, MS, and PhD, University of Connecticut

Park, Hyun-Sook - *Professor, Special Education* (2002)

PhD, University of California, Berkeley

Park, Taeho - *Professor and Director, Global Innovation and Leadership* (1988)

PhD, University of Wisconsin, Madison

Park, Younghee - *Associate Professor, Computer Engineering* (2013)

PhD, North Carolina State University

Patel, Niranjani - *Professor and Graduate Coordinator, Industrial and Systems Engineering* (2002)

BSc and MSc, Maharaja Sayajirao University of Baroda, India

MS, University of Illinois at Chicago

MS and PhD, Georgia Institute of Technology

Paul, Cassandra - *Associate Professor, Physics and Astronomy* (2012)

BA, State University of New York, Oswego

MS, University of Wyoming

PhD, University of California, Davis

Pearce, Jon - *Professor, Computer Science* (1982)

PhD, University of California, Berkeley

Pence, Barbara - *Professor, Mathematics* (1974)

PhD, Stanford University

Peng, Chunhui - *Assistant Professor, World Languages and Literatures* (2010)

PhD, University of California, San Diego

Peck, Deanna - *Peer Academic Success Services Program Director* (1999)

MA, Indiana University Southeast

Percival, Garrick - *Associate Professor and Director of Institute for Public Affairs and Civic Engagement, Political Science* (2012)

BA and MA, San Diego State University

PhD, University of California, Riverside

Pereira, Gary - *Assistant Professor, Geography* (2002)

PhD, University of Minnesota, Twin Cities

Pereira Pignotti, Giselle - *Assistant Professor, Nutrition, Food Science and Packaging* (2014)

BS and MS, University of São Paulo

PhD, Arizona State University

Perez-Guerra, Marla - *Associate University Risk Manager* (2016)

Peter, Kenneth - *Professor, Political Science* (1990)

BA, Stanford University

MA, University of Chicago

MA and PhD, Princeton University

Pham-Hi, Ninh - *Internal Control, Director* (2003)

MA, Chicago State University

Phan, Chanh - *Assistant Professor, Humanities* (1989)

PhD, University of Chicago

Phillabaum, Scott - *Associate Professor and TESOL Coordinator Linguistics and Language Development* (2008)

BA, Tulane University

MA, Louisiana State University

PhD, University of California, Los Angeles

Pickering, Mary - *Professor, History* (1994)

BA, MA, and PhD, Harvard University

Pietsch, Carlie - *Assistant Professor, Geology* (2017)

PhD, University of Southern California

Pizarro, Marcos - *Associate Dean of College of Education* (1999)

BA, Stanford University

PhD, University of Los Angeles

Plato, Peggy - *Professor, Kinesiology* (1976)

BS, San Jose State University

MS, University of Arizona

PhD, Ohio State University

Pogodzinski, Joseph - *Professor, Economics* (1987)

PhD, State University of New York, Stony Brook

Pollett, Christopher - *Professor, Computer Science* (2001)

PhD, University of California, San Diego

Ponniah, Jonathan - *Assistant Professor, Electrical Engineering* (2017)

PhD, University of Illinois at Urbana-Champaign

Poo, Adriana - *Senior Assistant, University Library* (2012)

Porfilio, Bradley - *Professor and Director, Educational Leadership Program* (2019)

BA, History, State University of New York at Brockport College

MS, Social Studies Education, Niagara University

PhD, Sociology of Education, University at Buffalo

Portner, Ryan - *Assistant Professor, Geology* (2017)

PhD, Macquarie University, Australia

Potika, Aikaterini - *Assistant Professor, Computer Science* (2015)

PhD, National Technical University of Athens, Greece

Poza, Luis - *Assistant Professor, Teacher Education* (2018)

BA, Yale University

MS, Columbia University

PhD, Stanford University

Prado, Carolina - *Assistant Professor, Environmental Studies* (2018)

BA, San Diego State University

PhD, University of California, Berkeley

Preston, Stephanie - *Counselor I, Counseling and Psychological Services* (2013)

PhD, Pacific University School of Professional Psychology

Prins, Annabel - *Professor and Director of Veterans Integration to Academic Leadership, Psychology* (1997)

PhD, State University of New York at Albany

Prioleau, Jean - *Men's Basketball Head Coach* (2017)

BS, Fordham University

Pritsker, Jeffrey - *Associate Athletics Director, Finance* (2018)

BS, Purdue University

MBA, Miami University

PhD, Florida State University

Prothro-Jones, Lennon - *Assistant Director of Staff, Lead, and PM* (2017)

BA, San Jose State University

MED, Ashford University

Prunty, Kathleen - *Associate Vice President for Business Services* (2018)

BA, Pitzer College

Pruthi, Sarika - *Associate Professor, Global Innovation & Leadership* (2014)

Pyeon, Jae-Ho - *Associate Professor, Civil and Environmental Engineering* (2007)

PhD, University of Florida

## Q

Quach, Wendy - *Associate Professor and Director of AACES, Tapestry, and EPICS, Communicative Disorders and Sciences* (2007)

BA and MA, University of Alberta, Canada

PhD, University of Nebraska-Lincoln

Quan, Gina - *Assistant Professor, Physics and Astronomy* (2019)

BA, University of California Berkeley

PhD, University of Maryland, College Park

Quan, Xiaohong - *Professor, Global Innovation and Leadership* (2007)

BS and ME, Peking University, China

PhD, University of California, Berkeley

Quill, Lawrence - *Professor, Political Science* (2006)

PhD, University of Essex, England

Quintanar, Mary - *Associate Athletics Director, Human Resources* (2019)

PhD, Stanford University

## R

Rabin, Colette - *Professor, Teacher Education* (2006)

BA, Reed College

MA, San Jose State University

PhD, Mills College

Radford, Cameron - *Director of Football Digital Communications* (2017)

BS, Oregon State University

Radlauer, Madalyn - *Assistant Professor, Chemistry* (2017)

BS, Stanford University

PhD, California Institute of Technology

Raghuram, Sumita - *Associate Professor, School of Management* (2019)

PhD, University of Minnesota

Rajan, Mahesh - *Professor, Marketing and Business Analytics* (2001)

PhD, University of California, Irvine

Rajkovic, Tijana - *Assistant Professor, Accounting and Finance* (2015)

BS, University of Belgrade, Serbia

PhD, University of Missouri

Raman, Priya - *Associate Professor, Communication Studies* (2008)

BS, Osmania University College for Women, India

MA, University of Arizona

PhD, University of Arizona

Ramasubramanian, Anand - *Professor, Chemical and Materials Engineering* (2016)

BS, Annamalai University, India

MS, Indian Institute of Science, India

PhD, Rice University, Texas

Ramasubramanian, Laxmi - *Professor and Chair, Urban and Regional Planning* (2019)

MCP, Massachusetts Institute of Technology

PhD, University of Wisconsin-Milwaukee

Ramirez, Maria -- *Director of Advancement Services* (1998)

Ramirez, Ruby - *Assistant Professor, World Languages and Literatures* (2016)

PhD, University of California, Riverside

Rampini, Costanza - *Assistant Professor, Environmental Studies* (2016)

PhD, University of California, Santa Cruz

Rao, Alaka - *Associate Professor, School of Management* (2009)

PhD, University of California, Irvine

Rascon, Alberto - *Associate Professor, Chemistry* (2013)

BS, California State University, Bakersfield

PhD, University of Arizona

Rasmussen, David - *Senior Associate Athletics Director for Compliance* (2018)

BA, Brigham Young University

JD, Pennsylvania State University

Rauch, Lisa - *Assistant Professor and Co-Curriculum and Compliance Coordinator, Nursing* (2004)

AA, De Anza College

BS and MS, San Jose State University

PhD, University of San Francisco

Raynsford, Anthony - *Associate Professor, Art and Art History* (2008)

PhD, University of Chicago

Reade, Carol - *Professor, Global Innovation and Leadership* (2005)

PhD, London School of Economics and Political Science, England

Rebmann, Kristen - *Professor, School of Information* (2007)

PhD, University of California, San Diego

Rech, Sabine - *Professor and Director of Biotechnology Program, Biological Sciences* (1986)

BS, University of Santa Clara

MA, San Jose State University

PhD, University of California, Davis

Record, Matthew - *Assistant Professor, Political Science* (2017)

PhD, Ohio State University

Redd, Jennifer - *Director, eCampus* (2011)

BS and MED, University of Nevada, Las Vegas

MS, California State University, Fullerton

PhD, Iowa State University

Reed, Ben - *Assistant Professor, Computer Science* (2018)

BA, Miami University, Oxford

MS, DePaul University

PhD, University of California, Santa Cruz

Reed, Donald - *Professor, Geology* (1991)

PhD, University of California, San Diego

Reekie, Shirley - *Professor, Kinesiology* (1982)

BA, University of Liverpool, England

MA, University of Leeds, England

PhD, Ohio State University



Rees, Matthew - *Senior Director, University Housing* (2005)

MA, Teachers College, Columbia University

Reimer, Kendra - *Director, Track/Field/Cross Country* (2018)

MS, Texas A&M University

Rejeb, Jalel - *Associate Professor, Electrical Engineering* (2000)

PhD, Syracuse University

Reyes, Migdalia - *Professor and Chair, School of Social Work* (1994)

BA, University of Puerto Rico, Rio Piedras Campus, Puerto Rico

MSW, University of Connecticut

PhD, University of Massachusetts, Amherst

Rhee, Jinny - *Associate Dean, College of Engineering* (2002)

BS, MS, and PhD, Stanford University

Richardson, Kathrine - *Associate Professor, Geography* (2009)

PhD, University of British Columbia, Canada

Richardson, Pamela - *Interim Dean, College of Health and Human Sciences* (1998)

PhD, University of Washington

Rickman Patrick, Sheri - *Assistant Professor, Nursing* (2017)

BS, University of California, Davis

BS, Bethel College

MSN, University of California, San Francisco

DNP, Northern California Consortium

Rietz, Justin - *Assistant Professor, Economics* (2011)

BA, Stanford University

MBA, University of California, Berkeley

MA, San Jose State University

PhD, University of Santa Cruz

Riley, Shannon Rose - *Professor, Chair, and Coordinator of Creative Arts Program, Humanities* (2008)

BFA, Maine College of Art

MFA, Tufts University

PhD, University of California, Davis

Rios, Shauna - *Associate Director for Financial Support and Innovation* (2007)

AA, Modesto Junior College

BA and MPA, California State University, Stanislaus

Rivera, Ferdinand - *Professor, Mathematics* (2002)

PhD, Ohio State University

Rivers, Daniel - *Assistant Professor, Humanities* (2019)

BA, Sonoma State University

MA, New York University

PhD, Claremont Graduate University

Roberts-Douglass, Karisman - *Counselor II, Counseling and Psychological Services* (2010)

PsyD, Alliant International University

Rodan, Simon - *Professor, School of Management* (2002)

BS, Imperial College, England

MBA and PhD, Institut Européen d'Administration des Affaires, France

Roddick, Cheryl - *Professor, Mathematics* (1998)

PhD, Ohio State University

Rodgers, Bernadette - *Associate Director, Enrollment Services Communication* (2011)

BA, California State University, Chico

Rodriguez, Patricia - *Senior Manager, Employee Support Services* (2001)

BS and MA, San Jose State University

Roe, Kathleen - *Professor, Public Health and Recreation* (1986)

BA, MPH, PhD, University of California, Berkeley

Rogers, Ronald - *Associate Dean, Academic Programs* (1999)

BA, University of California, Santa Cruz

MA and PhD, Rutgers University

Rohn, Leslie - *Chief Operating Officer* (2006)

BBA, Florida International University

Rojas, Carlos - *Assistant Professor, Computer Engineering* (2019)

PhD, University of California, Davis

Roldan, Maria - *Professor, Information Systems and Technology* (2011)

PhD, University of California, Los Angeles

Romanowsky, Aaron - *Associate Professor, Physics and Astronomy* (2012)

BS, University of California, Santa Barbara

MA and PhD, Harvard University

Rondilla, Joanne Marie - *Assistant Professor, Sociology & Interdisciplinary Social Sciences* (2017)

PhD, University of California, Berkeley

Rosenblum, Ruth - *Associate Professor and Program Coordinator of Northern Consortium, Nursing* (2006)

BS, University of Wisconsin

MS, Northwestern University

DNP, University of San Francisco

Rosenfeld, Liat - *Assistant Professor, Chemical & Materials Engineering* (2015)

BS, MS, and PhD, Israel Institute of Technology, Israel

Ross, Susan - *Assistant Professor, Coordinator of Recreation Therapy, and Coordinator of Complementary and Alternative Medicine, Public Health and Recreation* (1999)

PhD, California Institute of Integral Studies

Rostankowski, Cynthia - *Associate Professor and Coordinator of Humanities Honors and Advanced Honors Programs, Humanities* (1987)

PhD, Stanford University

Roth, Jonathan - *Professor and Director of the Burdick Military History Project, History* (1994)

BA, University of California, Berkeley

MA and PhD, Columbia University

Rouse, Wendy - *Associate Professor and Coordinator of Social Science Teacher Preparation Program, History* (2012)

BA and MA, California State University, Sacramento

PhD, University of California, Davis

Roy, Mantra - *Senior Assistant, University Library* (2019)

PhD, University of South Florida

Rucker, Robert - *Associate Professor and Chair, Journalism and Mass Communications* (1990)

BS, Northern Illinois University

MS, University of Illinois at Urbana-Champaign

Rudy, Preston - *Assistant Professor, Sociology & Interdisciplinary Social Sciences* (2004)

BA, University of Texas at Austin

MA and PhD, University of California, Davis

Russell, William - *Professor, Environmental Studies* (2004)

BS, University of California, Santa Cruz

MS, San Jose State University

PhD, University of California, Berkeley

Ryan, Tricia - *Director, Graduate Admissions and Program Evaluation* (2005)

BA, San Francisco State University

MS, California State University

MA, San Jose State University

Rycenga, Jennifer - *Professor and Coordinator of Comparative Religious Studies Program, Humanities* (1990)

BA, Yale University

MM, University of Toronto, Canada

MA, Sacred Heart University

PhD, Graduate Theological Union

## S

Sabalius, Romey - *Professor, World Languages and Literatures* (1995)

PhD, University of Southern California

Saldamli, Gokay - *Assistant Professor, Computer Engineering* (2016)

PhD, Oregon State University

Saleem, Mohammad - *Professor, Mathematics* (1990)

PhD, University of California, Davis

Salvadalena, Adam - *Associate Director of Energy, Co-Generation Plant* (2015)

BS, California Polytechnic State University, San Luis Obispo

Samuelson, Cheyla - *Assistant Professor and Coordinator of Spanish Undergraduate Program, World Languages and Literatures* (2014)

PhD, University of California, Santa Barbara

San Fratello, Virginia - *Associate Professor, Design* (2010)

MA, Columbia University

San Nicolas-Rocca, Tonia - *Associate Professor, School of Information* (2013)

BA and MBA, California State University, San Bernardino

PhD, Claremont Graduate University

Sanchez, Carlos - *Professor and Chair of the Committee on Hispanics for the American Philosophical Association, Philosophy* (2000)

BS, San Jose State University

PhD, University of New Mexico

Sanfilippo, Bradley - *Head Coach, Baseball* (2012)

BA, University of California, Davis

Santos, Michael - *Police Lieutenant* (1998)

BA, San Jose State University

Sarrafan, Babak - *Professor, Film and Theatre* (1998)

MA, San Diego State University

Sasaki, Blake - *Senior Associate Athletics Director for External Relations, External Athletic Operations* (2013)

BA, University of California, Davis

MA, Ohio University

Sasikumar, Karthika - *Professor, Political Science* (2009)

MA, Jawaharlal Nehru University, India

MA, English and Foreign Language University, India

PhD, Cornell University

Sauzade, Alena - *Art Gallery Director and Collections Manager* (2020)

BA, Mills College

PhD, State University of New York, Stony Brook

Schettler, Jordan - *Assistant Professor, Mathematics* (2015)

BS, University of Tennessee

PhD, University of Arizona

Schmidt, Teresa - *Interim University Bursar, Bursar's Office* (2019)

BBA, San Jose State University

MBA, Ashland University

Schultz-Krohn, Winifred - *Professor, Occupational Therapy* (1996)

- MA, Saint Thomas Seminary  
PhD, Saybrook Institute
- Schuster, David - *Associate Professor, Psychology* (2013)  
BA, University of Tampa  
MA and PhD, University of Central Florida
- Sclafani, Jennifer - *Director, Enrollment Services Technical Implementation and Communication* (2006)  
MA and MS, San Jose State University
- Seah, Diana - *Associate Professor, Design* (2002)  
MA, Iowa State University
- Selvaduray, Guna - *Professor and Chair, Biomedical Engineering* (1978)  
BE, Tokyo Institute of Technology, Japan  
MS and PhD, Stanford University
- Semerjian, Tamar - *Professor and Chair, Kinesiology* (2007)  
BA, University of California, Berkeley  
MA and PhD, University of Iowa
- Sen, Soma - *Professor, School of Social Work* (2007)  
MSW, University of Minnesota, Twin Cities  
PhD, Arizona State University
- Serrato-Lager, Lucila - *Associate Director, Financial Aid Operations* (2003)  
BS, Menlo College
- Sexton, Randall - *Professor, Design* (1986)  
BFA, University of Washington
- Seymour, Chafin - *Assistant Professor, Music and Dance* (2019)  
MFA, University of Iowa
- Shaffer, Scott - *Professor, Biological Sciences* (2009)  
BS, San Diego State University  
MS and PhD, University of California, Santa Cruz
- Shi, Tianqin - *Assistant Professor, Global Innovation and Leadership* (2015)  
PhD, University of Illinois at Urbana-Champaign
- Shifflett, Bethany - *Professor, Kinesiology* (1987)

- BA, Southern Connecticut State College
- MA and PhD, University of Iowa
- Shillinglaw, Susan - *Professor, English* (1984)
- PhD, University of North Carolina, Chapel Hill
- Shim, Sang - *Professor, Computer Engineering* (1997)
- PhD, University of Minnesota, Twin Cities
- Shirani, Ashraf - *Professor, Information Systems and Technology* (2000)
- MBA, University of Ark, Fayetteville
- PhD, University of Mississippi
- Shiverdecker, Adam - *Assistant Professor, Art and Art History* (2015)
- MFA, University of South Carolina
- Shubin, Tatiana - *Professor, Mathematics* (1985)
- PhD, University of California, Santa Barbara
- Shukla, Namrata - *Associate Dean, College of Professional and Global Education* (2008)
- MBA, University of Houston
- Sibley, Robert - *Associate Professor, Marketing and Business Analytics* (2002)
- PhD, Georgia State University
- Siebert, Erin - *Assistant Professor, Kinesiology* (2017)
- BS and MS, University of Wisconsin
- MPH and PhD, Oregon State University
- Silberman, Shai - *Director, Network Services* (2013)
- MBA, San Jose State University
- Simic, Slobodan - *Professor, Mathematics* (2004)
- PhD, University of California, Berkeley
- Simocko, Chester - *Assistant Professor, Chemistry* (2016)
- BS, Rensselaer Polytechnic Institute
- PhD, University of Florida
- Simon, Melinda - *Assistant Professor, Biomedical Engineering* (2017)
- BS, University of Cincinnati
- MS, University of California, Davis

- PhD, University of California, Irvine
- Simpson, Craig - *Associate Librarian, University Library* (2017)
- MA, Marquette University
- Simpson, Lisa - *Assistant Professor, Special Education* (2014)
- BS and MED, Texas Tech University
- DED, University of San Francisco
- Singmaster, Karen - *Professor and Chair, Chemistry* (1988)
- BS, University of Puerto Rico, Puerto Rico
- PhD, University of California, Berkeley
- Sirkeci, Birsen - *Associate Professor, Electrical Engineering* (2007)
- BS, Middle East Technical University, Turkey
- MS, Northeastern University
- PhD, Cornell University
- Skinnell, Ryan - *Assistant Professor and Assistant Writing Program Administrator, English* (2015)
- BA, University of California, Santa Barbara
- MA, California State University, Northridge
- PhD, Arizona State University
- Skovran, Elizabeth - *Associate Professor, Biological Sciences* (2012)
- PhD, University of Wisconsin-Madison
- Skyberg, John - *Senior Director, Facilities Services* (1980)
- Slusser, Emily - *Associate Professor and Chair, Child and Adolescent Development* (2012)
- BA, MA, and PhD, University of California, Irvine
- Smallwood, Christopher - *Assistant Professor, Physics and Astronomy* (2018)
- BA, Harvard University
- MA and PhD, University of California, Berkeley
- Smallwood, Evan - *Director, Leadership Annual Giving* (2019)
- BA, University of Mary Washington
- Smith, Grinell - *Professor, Teacher Education* (2006)
- PhD, University of Alabama
- Smith, Jerilyn - *Associate Professor, Occupational Therapy* (2003)



BS and MS, San Jose State University

Smith, Maureen - *Professor, Child and Adolescent Development* (1999)

BA, University of California, Davis

MA and PhD, Cornell University

Smith, Michelle - *Director of Corporate and Found, Development University Advancement* (2019)

BA, Santa Clara University

MPS, California State University, East Bay

So, Wasin - *Professor, Mathematics* (2000)

BS and MA, University of Hong Kong, Hong Kong

PhD, University of California, Santa Barbara

Soldofsky, Alan - *Professor and Director of Creative Writing, English* (1985)

MFA, University of Iowa

Song, Ju Myung - *Assistant Professor, Global Innovation and Leadership* (2017)

PhD, Rutgers University-Newark

Sorkhabi, Nadia - *Professor, Child and Adolescent Development* (2007)

PhD, University of California, Berkeley

Soto, Julio - *Professor, Biological Sciences* (1999)

PhD, University of California, Berkeley

Spangler, Matthew - *Professor, Communication Studies* (2005)

BS, Northwestern University

MA, Trinity College Dublin, Ireland

PhD, University of North Carolina at Chapel Hill

Spano, Shawn - *Professor, Communication Studies* (1988)

BA, California State University, Humboldt

MA, University of Wyoming

PhD, Indiana University, Bloomington

Spilker, Arlene - *Assistant Professor, Nursing* (2008)

BS and MS, San Jose State University

DNP, California State University, Fresno

Spitzer, Julie - *Professor, Mathematics* (2000)

PhD, University of North Carolina at Chapel Hill

Stamp, Mark - *Professor, Computer Science* (2002)

BS, Morningside College

PhD, Texas Tech University

Stansberry, Julie - *Interim Associate Director, Student Athlete Success Service* (2005)

BA and BA, San Jose State University

Stanton, Liam - *Assistant Professor, Mathematics* (2018)

PhD, Northwestern University

Stacks, Pamela - *Associate Vice President of Research* (1983)

BA, University of California, San Diego

PhD, University of California, Los Angeles

Stemwedel, Janet - *Professor, Philosophy* (2002)

PhD, Stanford University

Stenberg, Joseph - *Assistant Professor, Philosophy* (2019)

PhD, University of Colorado at Boulder

Stephens, Michael - *Associate Professor, School of Information* (2011)

BA and MLS, Indiana University

PhD, University of North Texas

Stewart, Nancy - *Senior Director, Annual Giving* (2003)

BA, Santa Clara University

Stork, Nancy - *Professor, English* (1994)

PhD, University of Toronto, Canada

Stroh, Patricia - *Librarian, Beethoven Center* (1986)

BM, University Of Illinois at Urbana-Champaign

MA, Univ Of California, Berkeley

Struer, Amanda - *Director, Advancement Research and Prospect Management* (2014)

BA, Copenhagen Business School

MA, Temple University

Su, Xiao - *Professor and Chair, Computer Engineering* (2002)

PhD, University Of Illinois at Urbana-Champaign

Sublett, Scott - *Professor, Film and Theatre* (1996)

MFA, University of California, Los Angeles

Sullivan-Green, Laura - *Associate Professor, Civil and Environmental Engineering* (2008)

PhD, Northwestern University

Sunseri, Charlotte - *Associate Professor, Anthropology* (2011)

PhD, University of California, Santa Cruz

Surgalski, Patrick - *Professor, Art and Art History* (1985)

MA, Cranbrook Academy of Art

Svorou, Soteria - *Associate Dean, SSAP* (1990)

BA, University of Athens

MA and PhD, State University of New York, Buffalo

Swan, Julia - *Assistant Professor, Linguistics and Language Development* (2017)

PhD, University of Chicago

Swanson, Patricia - *Professor and Chair, Teacher Education* (1997)

PhD, Stanford University

Sweet, Elizabeth - *Assistant Professor, Sociology & Interdisciplinary Social Sciences* (2017)

BA, Oregon State University

MA and PhD, University of California, Davis

Switz, Neil - *Associate Professor, Physics and Astronomy* (2016)

PhD, University of California, Berkeley

## T

Tahsin, Salman - *Assistant Professor, Accounting and Finance* (2019)

PhD, University of Ark, Fayetteville

Talley, Joni - *Associate Registrar* (2006)

MA, California State University, Fullerton

Tan, Edwin - *Director of Advocacy and Community, Organizational Development* (2020)

BA, University of California, Riverside

MA and PhD, University of California, Irvine

Tarnowska, Katarzyna - *Assistant Professor, Computer Science* (2018)

BS and MS, Warsaw University of Technology, Poland

MA, Warsaw School of Economics, Poland

MS, Technical University of Berlin, Germany

PhD, University of North Carolina at Charlotte

Taylor, David - *Associate Professor, Computer Science* (2002)

PhD, University of California, Los Angeles

Taylor, Nicholas - *Professor and Director of Martha Heasley Cox Center for Steinbeck Studies, English* (2007)

MFA, University of Virginia

Taylor Siegel, Matthew - *Director of Development, College of Humanities and the Arts* (2016)

BA, Santa Clara University

Terrill, Roger - *Associate Professor, Chemistry* (1998)

BA, University of California, Santa Cruz

MS, Fresno State University

PhD, University of North Carolina

Thiele, Megan - *Associate Professor, Sociology & Interdisciplinary Social Sciences* (2013)

PhD, University of California, Irvine

Thompson, Gisi - *Interim Associate Director, Student Conduct and Ethical Development* (2014)

BS, University of Florida

MA, University of Central Florida

Thompson, Mark - *Associate Professor and Director of Professional and Technical Writing Program, English* (2013)

PhD, Carnegie Mellon University

Thompson Taiwo, Wendy - *Assistant Professor, African American Studies* (2018)

PhD, University of Maryland, College Park

Tian, Shaonan - *Associate Professor, Marketing and Business Analytics* (2013)

PhD, University of Cincinnati

Tian, Yao - *Associate Professor, Accounting and Finance* (2012)

BS, University of Saskatchewan, Canada

PhD, University of Waterloo, Canada

Tien, Shu-Hwa Sara - *Nurse Manager* (2019)

MPH, University of Texas Health Science Center at Houston

Tillinghast, Diana - *Professor, Journalism and Mass Communications* (1983)

PhD, Michigan State University

Tiwana, Ravneet - *Interim Associate Director, Evaluation, Research, and Assessment* (2017)

PhD, University of California, Los Angeles

To, Trang - *Assistant Director, General Accounting* (1998)

BS, San Jose State University

Todd, Anne Marie - *Professor, Communication Studies* (2002)

BA, Emory University

PhD, University of Southern California

Tokunaga, Howard - *Professor, Psychology* (1989)

PhD, University of California, Berkeley

Tortora, Cristina - *Assistant Professor, Mathematics* (2016)

PhD, University of Naples Federico II, Italy

Tran, Ngoc-Yen - *Senior Assistant, University Library* (2016)

MS, University of Washington

Troncoso, Joshua - *Assistant Professor, Chicana and Chicano Studies* (2014)

PhD, University of California, Berkeley

Trulio, Lynne - *Professor and Chair, Environmental Studies* (1991)

BA, Goucher College

PhD, University of California, Davis

Tsai, Chia - *Associate Director of Planning* (2016)

BS, University of San Francisco

MED, San Francisco State University

Tsai, Kim - *Assistant Professor, Child and Adolescent Development* (2017)

BA, University of California, Santa Cruz

PhD, University of California, Los Angeles

Tsai, Pei-Tzu - *Associate Professor, Communicative Disorders & Sciences* (2011)

BA, National Chengchi University, Taiwan

MA and PhD, University of Maryland, College Park

Tsao, Jacob - *Professor, Industrial and Systems Engineering* (2018)

BA, National Chiao-Tung University, Taiwan

MS, University of Texas, Dallas

PhD, University of California, Berkeley

Tseng, Chris - *Professor, Computer Science* (2001)

BS, National Taiwan University, Taiwan

MS and PhD, University of Illinois at Urbana-Champaign,

Tsuruike, Masaaki - *Associate Professor, Kinesiology* (2012)

BS, Osaka University of Health and Sport Sciences, Japan

MS and PhD, Indiana University, Bloomington

Tucker, Virginia - *Assistant Professor, School of Information* (2005)

BA, Stanford University

MLS, University of California, Berkeley

PhD, Queensland University of Technology, Australia

Tuite, Marie - *Director of Athletics* (2010)

MED, Central Michigan University

Turner, Peter - *Head Softball Coach* (2006)

MBA, Hamilton University

## U

Ulate, Jody - *Senior Director, Strategic Communication and Marketing* (2006)

BA, American University

MA, San Jose State University

Uribe, Gary - *Head Coach, Strength and Conditioning* (2013)

MS, Azusa Pacific University

Urrutia, Dominic - *Athletics Annual Giving Officer, External Athletic Operations* (2015)

BS and MA, San Jose State University

Uryu, Michiko - *Assistant Professor and Japanese Advisor, World Languages and Literatures* (2019)

PhD, University of California, Berkeley

# V

Vaidya, Anand - *Professor and Director of the Center for Comparative Philosophy, Philosophy* (2005)

BA, University of California, Los Angeles

PhD, University of California, Santa Barbara

Van Selst, Mark - *Professor, Psychology* (1997)

BA, University of British Columbia, Canada

MA and PhD, University of Waterloo, Canada

Van Wyngarden, Annalise - *Associate Professor, Chemistry* (2009)

BA and BS, Hope College

PhD, University of California, Berkeley

VanHoven, Miri - *Professor, Biological Sciences* (2008)

PhD, University of California, San Francisco

Vanniarajan, Swathi - *Professor and Chair, Linguistics and Language Development* (1995)

MLitt, Central Institute of English & Foreign Languages, India

MA, Ottawa University, Canada

PhD, University of California, Los Angeles

Varona, Federico - *Professor, Communication Studies* (1991)

MA and PhD, University of Kansas

Vartan, Brad - *Senior Director of Development, College of Business* (2015)

BA, Columbia College

Vasquez, Anita - *Director, Benefits and Payroll* (1995)

Vasquez, George - *Professor, History* (1989)

BA, Harvard College

MA, Johns Hopkins University

PhD, Columbia University

Vasquez, Nathan - *Interim Associate Director, Maintenance and Operations* (2013)

Vera Sanchez, Claudio - *Associate Professor, Justice Studies* (2008)

PhD, University of Illinois at Chicago

Verducci -Sandford, Susan - *Professor, Humanities* (2004)

BFA, University of California, Santa Barbara

MFA, Rutgers University

MA and PhD, Stanford University

Vergine, Fabrizio - *Assistant Professor, Aerospace Engineering* (2017)

BS and MS, University of Rome, Italy

PhD, University of Texas at Arlington

Vickerman, David - *Associate Professor, Music and Dance* (2017)

DMA, John Hopkins University

Villagran, Michele - *Assistant Professor, School of Information* (2018)

BS, University of Nevada, Las Vegas

MSLS and MBA, University of North Texas

MDR and DED, Pepperdine University

Villagrana, Jose - *Assistant Professor, English* (2019)

PhD, University of California, Berkeley

Villavelazquez- Hill, Ignacia - *Associate Director, Accessible Education Center* (2005)

BA, University of California, Santa Cruz

MA, San Jose State University

Vinuales, Gema - *Assistant Professor, Marketing and Business Analytics* (2019)

PhD, University Of Rhode Island

Virick, Meghna - *Associate Dean, Undergraduate Programs for the College of Business* (2005)

MBA, Texas Christian University

PhD, University of Texas at Arlington

Visintainer, Tammie - *Assistant Professor, Teacher Education* (2017)

BS, University of Wisconsin, Madison

MS, San Francisco State University

PhD, University of California, Berkeley

Voss Plaxton, Catherine - *Interim Associate Vice President, Student Services* (2014)

BA, University of Michigan, Ann Arbor

MA, University to San Francisco

Vukazich, Steven - *Professor, Civil and Environmental Engineering* (1993)



BA, University of California, Davis

MA, University of California, Berkeley

PhD, University of California, Davis

## W

Wagle, Ashwini - *Professor, Chair, and Director of Didactic Program in Dietetics (DPD), Nutrition, Food Science and Packaging* (2003)

MS, Indiana University of Pennsylvania

DED, University of New England

Wagner, David - *Assistant Professor, Chemical and Materials Engineering* (2016)

PhD, University of Utah

Wallace, Danielle - *Director, Administrative Services* (2014)

ABA, Las Positas College

Waller, Michael - *Senior Associate Athletic Director, Business Operations* (2015)

BS, Central Missouri State University

Walsh, Elizabeth - *Associate Professor, Meteorology and Climate Science* (2012)

BS, Harvey Mudd College

MS and PhD, University Of Washington

Wang, Chunlei - *Associate Professor, School of Management* (2008)

PhD, Stanford University

Wang, Ningkun - *Assistant Professor, Chemistry* (2017)

BS, University of Utah

PhD, University of Michigan, Ann Arbor

Ward, Douglas - *Director of Financial Planning and Analysis* (2019)

MS, University of Wisconsin

Ward, Ryan - *Director of Advocacy and Federal Relations, Organizational Development* (2020)

BA, Willamette University

JD, University of Washington

Warner, Mary - *Professor, English* (2004)

BA, Mount Mary College

MA, Creighton University

PhD, University of Michigan

Warren, Jodie-Ann - *Assistant Professor, Justice Studies* (2019)

PhD, Simon Fraser University, Canada

Webb, G. Kent - *Professor, Information Systems and Technology* (1989)

BA, Utah State University

MA, MSE, MBA, and PhD, University of Pennsylvania

Wei, Wenbin - *Professor and Director, Aviation* (2003)

PhD, University of California, Berkeley

Weiss, Elizabeth - *Professor, Anthropology* (2004)

BA, University of California, Santa Cruz

MA, California State University, Sacramento

PhD, University of Ark, Fayetteville

Wesley, Leonard - *Associate Professor, Computer Science* (1995)

PhD, University Of Massachusetts, Amherst

West, Phylis - *Professor and Director, Journalism & Mass Communications* (2016)

PhD, Southern Illinois University

West, Sara - *Assistant Professor, English* (2018)

PhD, University of Arkansas

Westlake, Bryce - *Assistant Professor, Internship Coordinator, and International Experience Coordinator, Justice Studies* (2015)

PhD, Simon Fraser University, Canada

Wharton, Kenneth - *Professor, Physics and Astronomy* (2001)

BA, Stanford University

PhD, University Of California, Los Angeles

White, Brandon - *Associate Professor, Biological Sciences* (2007)

BS, Auburn University

PhD, University of Alabama, Birmingham

Whitenack, David - *Professor, Teacher Education* (1996)

BA, Dartmouth College

MED, Harvard University

PhD, Stanford University

Whitney, Robin - *Assistant Professor, Nursing* (2019)

BA, Bowdoin College

BS, University of Southern Maine

PhD, University of California, Davis

Widaman, Adrienne - *Assistant Professor, Nutrition, Food Science and Packaging* (2016)

BS and PhD, University of California, Davis

Wilhelm, Brenda - *Academic Resources Manager* (1992)

BA, Ohio State University

Wilkinson, Katherine - *Associate Professor, Biological Sciences* (2012)

BA and BS, University of Pittsburgh

PhD, University of California, San Diego

Wiley, Sharon - *Senior Associate Vice President for Enrollment Management* (1992)

MA, Bowling Green State University

Wilson, Ruth - *Professor and Chair, African American Studies* (2001)

BA, University of California, Santa Cruz

MA and PhD, Stanford University

Wolcott, Abraham - *Assistant Professor, Chemistry* (2015)

BS and PhD, University of California, Santa Cruz

Wolcott, Gregory - *Associate Vice President for Student Transition and Retention Services* (2001)

MA, Ohio University

DED, University of California, San Francisco

Wong, Alan - *Director, Business Development and External Relation* (2014)

BS, San Jose State University

PhD, University of California, Davis

Wong, Kathleen - *Chief Diversity Officer* (2016)

BA, California State University, East Bay

PhD, Arizona State University

Wong, Heidi - *Assistant Director for Budgeting Planning* (2002)

AA, De Anza College

Wong, Hiu Yung - *Assistant Professor, Electrical Engineering* (2018)

BE and MA, Chinese University of Hong Kong, Hong Kong

PhD, University of California, Berkeley

Wong, Vivian - *Professor and Director of the Wound and Ostomy Education Program, Nursing* (2005)

BS, University of Texas at Arlington

MS, University of Florida

PhD, University of California, San Francisco

Wood, Andrew - *Professor, Communication Studies* (1998)

PhD, Ohio University

Wood, April - *Assistant Professor, Nursing* (2007)

BS and BSN, University of Iowa

MS, San Jose State University

DNP, American Sentinel University

Woodhead, Erin - *Associate Professor, Psychology* (2012)

BS, Pennsylvania State University

MS and PhD, West Virginia University

Worthen, Miranda - *Associate Professor, Public Health and Recreation* (2012)

BA, Harvard University

MA, Oxford University

PhD, University of California, Berkeley

Wright, Christie - *Associate Director, Graduate Administration and Program Evaluation* (2010)

BA, Averett College

MA, University of Texas at Arlington

Wright, Joanne - *Senior Associate Vice President, University Personnel* (2015)

BA, University of California, Santa Cruz

JD, Rutgers University, Camden

Wright, Shannon - *Professor and Program Coordinator, Art and Art History* (2002)

BFA, *School of the Art Institute of Chicago*

MFA, *Virginia Commonwealth University*

Wright, Sonia - *Senior Director of Development for the College of Health and Human Sciences* (2014)

MA, University of Oregon

Wu, Ching-seh - *Assistant Professor, Computer Science* (2017)

MS, Air Force Institute of Technology

PhD, Texas A&M University

Wu, Yan - *Associate Professor, Global Innovation and Leadership* (2019)

PhD, Pennsylvania State University

Wu, Wencen - *Assistant Professor, Computer Engineering* (2018)

BS and MS, Shanghai Jiao Tong University, China

MS and PhD, Georgia Institute of Technology

Wughalter, Emily - *Professor, Kinesiology* (1991)

BA, Herbert H. Lehman College

MS, University of Colorado

DED, University of Georgia

## X

Xiao, Fangjun - *Assistant Professor, Accounting and Finance* (2019)

PhD, Washington State University

## Y

Yao, Marian - *University Registrar* (2005)

MBA, Cleveland State University

Yambrach, Fritz - *Professor and Director, Nutrition, Food Science and Packaging* (2007)

BS, Michigan State University

MBA, Utah State University

PhD, State University of New York, Buffalo

Yan, David - *Assistant Professor, Technology* (2017)

BE and MA, Auckland University of Technology, New Zealand

PhD, Deakin University, Australia

Yanai, Yasue - *Associate Professor, Coordinator, and Advisor of Japanese Program, World Languages and Literatures* (2009)

BA and MA, Ochanomizu Women's University, Japan

PhD, Georgetown University

Yang, Minji - *Counselor I, Counseling and Psychological Services* (2017)

PhD, University of Maryland, College Park

Ybarra, Barbara - *Director of Development for the College of Education* (2020)

BA and MBA, University of California, Santa Barbara

Yeboah, Nikki - *Assistant Professor, Communication Studies* (2016)

PhD, Northwestern University

Yee, David - *Assistant Professor, Design* (2007)

BS, San Jose State University

MFA, University of Hartford

Yee, Raymond - *Professor and Associate Chair, Mechanical Engineering* (2000)

BS, California Polytechnic State University, San Luis Obispo

MS and PhD, University of California, Berkeley

Yen, Tsu-Hong - *Professor and Chair, Hospitality, Tourism and Event Management* (2002)

PhD, University of Illinois At Chicago

Yu, Weider - *Professor, Computer Engineering* (2002)

PhD, Northwestern University

Yuan, Yue - *Assistant Professor, Justice Studies* (2016)

PhD, Indiana University, Bloomington

## Z

Zacchia, Paraluman - *Director, Accounting Services* (2018)

BBA, University of the East

MTAX, California State University, East Bay

MBA, Amberton University

Zartoshty, Parinaz - *Director, International Student and Scholar Services* (2018)

BA, Cornell University

MA, Boston University

Zhang, Ni - *Assistant Professor, Public Health and Recreation* (2015)

PhD, University of Iowa

Zhang, Jian - *Associate Professor, Accounting and Finance* (2006)

PhD, Arizona State University

Zhang, Jing - *Associate Professor, Marketing and Business Analytics* (2011)

PhD, University of Illinois at Urbana-Champaign

Zhang, Yan - *Assistant Professor, Mathematics* (2016)

BA, Harvard University

PhD, Massachusetts Institute of Technology

Zhao, Juzi - *Assistant Professor, Electrical Engineering* (2017)

PhD, George Washington University

Zheng, Lilian -- *Director of Institutional Research* (2020)

DED, University of California, Berkeley

Zhou, Ming - *Professor, Global Innovation and Leadership* (2006)

PhD, University of Maryland, College Park

Zhou, Shu - *Associate Professor, Global Innovation and Leadership* (2007)

PhD, Cornell University

Zipp, Robert - *Leadership Annual Giving Officer* (2019)

BA, Swarthmore College

# Emeritus Faculty

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

Year in parentheses indicates date of retirement of the faculty or staff member.

## A

- Acrivos, Juana - *Emeritus Faculty*, Chemistry (2006)
- Adams, Michael - *Emeritus Faculty*, Film and Theatre (2013)
- Adelman, Toby - *Emeritus Faculty*, Nursing (2019)
- Ahlquist, Roberta - *Emeritus Faculty*, Teacher Education (2017)
- Albers, Patricia - *Lecturer Emerita*, Art and Art History (2019)
- Allmen, Cheryl - *Emeritus Staff*, Career Center (2012)
- Alperin, Roger - *Emeritus Faculty*, Mathematics (2016)
- Amiras, Mira - *Emeritus Faculty*, Humanities (2013)
- Andersen, David - *Emeritus Faculty*, Geology (2018)
- Anthrop, Donald - *Emeritus Faculty*, Geography (2006)
- Antoine, Rosa - *Emeritus Staff*, Computer Engineering (2017)
- Antokal, Gale - *Emeritus Faculty*, Art and Art History (2019)
- Araya, Agustin - *Emeritus Faculty*, Computer Science (2011)
- Ashton, Sally - *Lecturer Emerita*, English (2019)
- Asquith, David - *Emeritus Faculty*, College of Social Sciences (2010)
- Austin-Lett, Genelle - *Emeritus Faculty*, College of Social Sciences (2013)
- Avila, John - *Emeritus Faculty*, Computer Science (2007)

## B

- Baker, Diana - *Emeritus Staff*, History (2016)
- Bakke, Celia - *Emeritus Faculty*, Psychology (2011)
- Baldwin, Cecilia - *Emeritus Faculty*, Journalism and Mass Communications (2014)
- Barela, Albert - *Emeritus Faculty*, Art and Art History (2005)



Barnes, Judith - *Emeritus Faculty*, Communication Studies (2005)

Baroody-Hart, Cynthia - *Emeritus Faculty*, Justice Studies (2012)

Barozzi, Louie - *Emeritus Staff*, International Student and Scholar Services (2010)

Bates, Seth - *Emeritus Faculty*, Technology (2016)

Becker, Joanne - *Emeritus Faculty*, Mathematics (2015)

Becker, Joseph - *Professor Emeritus*, Physics and Astronomy (2013)

Beckett, Alvin - *Emeritus Faculty*, College of Business (2005)

Beeson, Michael - *Emeritus Faculty*, Computer Science (2014)

Belanger, Sandra - *Emeritus Faculty*, University Library (2006)

Belet, Brian - *Emeritus Faculty*, Music & Dance (2020)

Belo, Panfilo - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2014)

Berger, Florie - *Emeritus Faculty*, University Library (2010)

Bernardini, Eugene - *Emeritus Faculty*, Humanities (2007)

Bernhardt, John - *Emeritus Faculty*, History (2016)

Betten, Paul - *Emeritus Faculty*, College of Education (2007)

Bienenfeld, Sheila - *Emeritus Faculty*, Psychology (2015)

Billik, Martin - *Emeritus Faculty*, Mathematics (2007)

Block, Joan - *Emeritus Staff*, Sociology and Interdisciplinary Social Sciences (2008)

Bloomer, Iris - *Emeritus Faculty*, Physics and Astronomy (2010)

Blythe, William - *Emeritus Faculty*, Civil and Environmental Engineering (2008)

Boekema, Carolus - *Emeritus Faculty*, Physics and Astronomy (2017)

Bohn, Ralph - *Emeritus Faculty*, Technology (2007)

Boothby, John - *Emeritus Faculty*, Biological Sciences (2015)

Bornstein, Robert - *Emeritus Faculty*, Meteorology and Climate Science (2010)

Boschken, Herman - *Emeritus Faculty*, School of Management (2014)

Bossard, Earl - *Emeritus Faculty*, Urban and Regional Planning (2010)

Bowman, Mary - *Emeritus Faculty*, Kinesiology (2006)

Boyacigiller, Nakiye - *Emeritus Faculty*, School of Management (2007)

Braley, Loy - *Emeritus Faculty*, Psychology (2008)

Brannen, Mary - *Emeritus Faculty*, School of Management (2009)

Branz, Stephen - *Emeritus Faculty*, Chemistry (2019)

Brinegar, Anthony - *Emeritus Faculty*, Biological Sciences (2019)

Brook, Sharon - *Emeritus Faculty*, Music & Dance (2020)

Bros, Shannon - *Emeritus Faculty*, Biological Sciences (2017)

Brown, Paul - *Emeritus Faculty*, Inactive-Rec and Leisure Studies (2007)

Browne, Clare - *Lecturer Emerita*, English (2019)

Bryant, James - *Emeritus Faculty*, Kinesiology (2007)

Buell, Cathy - *Emeritus Faculty*, Kinesiology (2011)

Bull, Galen - *Emeritus Faculty*, College of Science (2008)

Bullock, Charles - *Emeritus Faculty*, Public Health and Recreation (2017)

Burak, Marshall - *Emeritus Faculty*, Accounting and Finance (2007)

Burke, Michael - *Emeritus Faculty*, Computer Science (2006)

Burkhard, Richard - *Emeritus Faculty*, Information Systems and Technology (2020)

Burkom, Selma - *Emeritus Faculty*, English (2007)

Burton, Ester - *University Staff*, Retired, Engineering Student Success Center (2019)

Burton, Gordon - *Emeritus Faculty*, Occupational Therapy (2004)

Buzanski, Peter - *Emeritus Faculty*, History (2010)

## C

Calegari, Mary - *Emeritus Faculty*, Accounting & Finance (2020)

Cara, Elizabeth - *Emeritus Faculty*, Occupational Therapy (2017)

Carlson, Margaret - *Emeritus Staff*, College of Social Sciences (2015)

Carlson, Steven - *Emeritus Faculty*, Art and Art History (2011)

Carranza, Elihu - *Emeritus Faculty*, Communication Studies (2011)

Carroll, Mary - *Emeritus Faculty*, Political Science (2006)

Carter, Alice - *Emeritus Faculty*, Design (2016)

Castro, George - *Emeritus Faculty*, Chemistry (2006)

Cate, Sandra - *Emeritus Faculty*, Anthropology (2015)

Chang, Ji-Mei - *Emeritus Faculty*, Special Education (2016)

Chen, Ray - *Emeritus Faculty*, Electrical Engineering (2017)

Cheng, Guang-Meei - *Emeritus Faculty*, Economics (2016)

Chiao, Sun-Hai - *Emeritus Faculty*, Electrical Engineering (2019)

Chiarito, Robert - *Emeritus Faculty*, Art and Art History (2018)

Christensen, Carol - *Emeritus Faculty*, Kinesiology (2004)

Christensen, Terry - *Emeritus Faculty*, College of Social Sciences (2013)

Coale, Kenneth - *Emeritus Faculty*, Moss Landing Marine Lab (2018)

Coates, Floyd - *Emeritus Faculty*, Art and Art History (2005)

Cody, Arthur - *Emeritus Faculty*, Philosophy (2007)

Cohen, Isaac - *Emeritus Faculty*, School of Management (2015)

Cohen, Jayne - *Emeritus Faculty*, Nursing (2018)

Cohen, Kathleen - *Emeritus Faculty*, Art and Art History (2005)

Collins, Gloria - *Emeritus Faculty*, English (2016)

Combs, Howard - *Emeritus Faculty*, Marketing and Business Analytics (2019)

Connell, Elva - *Emeritus Staff*, Psychology (2016)

Conniff, Michael L - *Emeritus Faculty*, History (2017)

Connolly, Phyllis - *Emeritus Faculty*, Nursing (2011)

Conry, Barbara - *Emeritus Faculty*, Kinesiology (2012)

Cook, S D - *Emeritus Faculty*, Philosophy (2015)

Cooper, Robert - *Emeritus Faculty*, Psychology (2016)

Corcoran, Gertrude - *Emeritus Faculty*, College of Education (2005)

Cornford, Daniel - *Emeritus Faculty*, History (2010)

Cowden, Robert - *Emeritus Faculty*, Music and Dance (2007)

Cox, Bonita - *Emeritus Faculty*, English (2015)

Cross, Sharyl - *Emeritus Faculty*, Political Science (2011)

Crowe, Edith - *Emeritus Faculty*, University Library (2007)

Cullen, Robert - *Emeritus Faculty*, English (2015)

Culley, James - *Emeritus Faculty*, Film and Theatre (2013)

Curry, Cherie - *Emeritus Faculty*, Music and Dance (2006)

## D

- Danopoulos, Constantine - *Emeritus Faculty*, Political Science (2018)
- Daoud, Adnan - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2011)
- David, Debra - *Emeritus Faculty*, Public Health and Recreation (2015)
- Day, Jane - *Emeritus Faculty*, Mathematics (2010)
- Decena, Peter - *Chief of Police, Parking Services* (2011)
- Delevoryas, John - *Emeritus Faculty*, Music and Dance (2009)
- Demers, Anne - *Emeritus Faculty*, Public Health and Recreation (2019)
- Desautel, Richard - *Emeritus Faculty*, Aerospace Studies (2004)
- Devincenzi, William - *Emeritus Faculty*, Accounting and Finance (2016)
- Dietz, Elizabeth - *Emeritus Faculty*, Nursing (2013)
- Doi, Steven - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2017)
- Don, Patricia - *Emeritus Faculty*, History (2013)
- Donnelly, William - *Emeritus Faculty*, Accounting and Finance (2007)
- Dorosti, Javad - *Emeritus Faculty*, General Engineering (2018)
- Douglass, Malcolm - *Emeritus Faculty*, English (2019)
- Dresser, Rocio - *Emeritus Faculty*, Teacher Education (2018)
- Drobot, Vladimir - *Emeritus Faculty*, Computer Science (2007)

## E

- Earle, James - *Emeritus Faculty*, Film and Theatre (2011)
- Eastman, Lucius - *Emeritus Faculty*, College of Humanities and Arts (2010)
- Eden, Terri - *Emeritus Staff*, Degree Audit (2016)
- Edfelt, Ralph - *Emeritus Faculty*, School of Management (2009)
- El-Shaieb, Abdel - *Emeritus Faculty*, College of Business (2006)
- Elmore, Dana - *Emeritus Faculty*, College of Education (2006)
- Empey, John - *Emeritus Staff*, Psychology (2010)
- Engell, John - *Emeritus Faculty*, English (2019)

Estabrook, Reed - *Emeritus Faculty*, Art and Art History (2015)

Evans, Gail - *Emeritus Faculty*, Kinesiology (2013)

## F

Fallon, Michael - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2017)

Fanos, Joanna - *Lecturer C -Psychology*, Psychology (2020)

Fimbel, Nancie - *Emeritus Faculty*, Marketing and Business Analytics (2015)

Fimbres, Manuel - *Emeritus Faculty*, School of Social Work (2019)

Finkelstein, Alan - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2019)

Fisher, William - *Emeritus Faculty*, School of Information (2013)

Fister, A - *Emeritus Staff*, Economics (2015)

Fjelstad, Karen - *Emeritus Faculty*, Anthropology (2016)

Floyd, Karel - *Emeritus Staff*, College of Social Sciences (2018)

Foldvary, Fred - *Emeritus Faculty*, Economics (2019)

Foster, Leslie - *Emeritus Faculty*, Mathematics (2015)

Fountain, Anne - *Emeritus Faculty*, World Languages and Literatures (2016)

Fowler, Robert - *Emeritus Faculty*, Biological Sciences (2013)

Frank, Joseph - *Emeritus Faculty*, Music and Dance (2019)

Franks, Joel - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2019)

Freeman, James - *Emeritus Faculty*, Anthropology (2006)

Freeman, James - *Emeritus Faculty*, College of Engineering (2011)

Freund, Louis - *Emeritus Faculty*, College of Engineering (2017)

Friebel, Allen - *Emeritus Faculty*, College of Business (2008)

Fruin, William - *Emeritus Faculty*, School of Management (2015)

Furst, David - *Emeritus Faculty*, Kinesiology (2006)

## G

Garcia, Julio - *Emeritus Faculty*, Technology (2016)

Garcia, Linda - *Emeritus Staff*, College of Social Sciences (2015)

Garcia, Marshall - *Professor Emeritus*, Art and Art History (2011)

Gasich, Dushan - *Emeritus Faculty*, Information Systems and Technology (2015)

Gayle, Debrayh - *Emeritus Faculty*, Nursing (2019)

George, William - *Emeritus Faculty*, Music and Dance (2005)

Gerstman, Buddy - *Emeritus Faculty*, Public Health and Recreation (2016)

Gerston, Larry - *Emeritus Faculty*, Political Science (2010)

Gifford, Marjorie - *Emeritus Faculty*, Mathematics (2010)

Glancy, Maureen - *Emeritus Faculty*, Inactive-Rec and Leisure Studies (2005)

Gliner, Robert - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2008)

Glines, Daniel - *Emeritus Faculty*, Kinesiology (2009)

Goldman, Aaron - *Emeritus Faculty*, History (2008)

Goldston, Daniel - *Emeritus Faculty*, *Mathematics* (2020)

Gonzales, Irene - *Emeritus Faculty*, Nursing (2012)

Goodman, Jindra - *Emeritus Faculty*, Meteorology and Climate Science (2010)

Gorenberg, Bobbye - *Emeritus Faculty*, Nursing (2007)

Gorney-Moreno, Mary - *Emeritus Faculty*, Nursing (2010)

Gotliffe, Harvey - *Emeritus Faculty*, Journalism and Mass Communications (2008)

Granner, John - *Emeritus Faculty*, Design (2016)

Grant, George - *Emeritus Faculty*, English (2007)

Greb, Gordon - *Emeritus Faculty*, Journalism and Mass Communications (2007)

Greene, Herbert - *Emeritus Faculty*, Moss Landing Marine Lab (2006)

Grilione, Patricia - *Emeritus Faculty*, Biological Sciences (2011)

Grindstaff, Beverly - *Emerita Faculty*, Art and Art History (2019)

Guenter, Scot - *Emeritus Faculty*, Humanities (2019)

Guerin, Gilbert - *Emeritus Faculty*, College of Education (2005)

## H

Haas, Peter - *Emeritus Faculty*, Political Science (2017)

Habal, Estella - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2014)

Hagemann, Janet - *Emeritus Faculty*, Justice Studies (2015)

Hamann, Eloise - *Emeritus Faculty*, Mathematics (2007)

Hamill, Patrick - *Emeritus Faculty*, College of Science (2008)

Hanna, William - *Emeritus Faculty*, Teacher Education (2015)

Hansen, Debra - *Emeritus Faculty*, School of Information (2019)

Harden, Deborah - *Emeritus Faculty*, Geology (2006)

Harper, Victoria - *Emeritus Faculty*, Teacher Education (2007)

Harris, Cobie - *Emeritus Faculty*, Political Science (2013)

Harris, Edward - *Emeritus Faculty*, Music and Dance (2018)

Hatch, David - *Emeritus Faculty*, Art and Art History (2011)

Haycock, Kenneth - *Emeritus Faculty*, School of Information (2010)

Hegstrom, Timothy - *Emeritus Faculty*, Communication Studies (2012)

Heisch, Allison - *Professor Emerita*, English (2009)

Heisinger, H. Brent - *Professor Emeritus*, Music and Dance (2007)

Helgren, David - *Emeritus Faculty*, Geography (2007)

Helmbold, Lois - *Emeritus Faculty*, College of Social Sciences (2011)

Henze, Rosemary - *Emeritus Faculty*, Linguistics and Language Development (2018)

Hernandez, Joanne - *Emeritus Faculty*, Art and Art History (2019)

Herrold, Rebecca - *Emeritus Faculty*, Music and Dance (2007)

Hibshoosh, Aharon - *Emeritus Faculty*, Marketing and Business Analytics (2015)

Hines, Alice - *Emeritus Faculty*, School of Social Work (2018)

Ho, Stuart - *Emeritus Staff*, Institutional Research (2018)

Hohmann, Hanns - *Emeritus Faculty*, Communication Studies (2017)

Holley, Daniel - *Emeritus Faculty*, Biological Sciences (2015)

Hollingsworth, Sandra - *Emeritus Faculty*, Teacher Education (2008)

Holmes, Brian - *Emeritus Faculty*, Physics and Astronomy (2018)

Holscher, Louis - *Emeritus Faculty*, Chicana and Chicano Studies (2009)

Horstmann, Cay - *Emeritus Faculty*, Computer Science (2019)

Huebner, Thomas - *Emeritus Faculty*, Linguistics and Language Development (2013)

Hwang, Shirley - *Emeritus Staff*, University Library (2015)

Hyde, Robert - *Emeritus Faculty*, Biological Sciences (2012)

## I

Ibrahim, Azmy - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2006)

Ittis, Wilfred - *Emeritus Faculty*, Biological Sciences (2006)

Inghram, Patricia - *Emeritus Staff*, College of Health and Human Sciences (2012)

## J

Jackson, Bradley - *Emeritus Faculty*, Mathematics (2019)

Jaehne, Dennis - *Emeritus Faculty*, Communication Studies (2020)

Jankovich, J - *Emeritus Faculty*, School of Management (2013)

Jennings, Michael - *Emeritus Faculty*, Chemical and Materials Engineering (2016)

Jerke, Iris - *Emeritus Faculty*, History (2015)

Jerrell, Stephen - *Emeritus Faculty*, School of Management (2010)

Jiang, William - *Emeritus Faculty*, School of Management (2016)

Jochim, Christian - *Emeritus Faculty*, Humanities (2020)

Johnston, Janet - *Emeritus Faculty*, Justice Studies (2011)

Jones, Curtis - *Emeritus Faculty*, Electrical Engineering (2017)

Jordan, Kevin - *Emeritus Faculty*, Psychology (2015)

Jurmain, Robert - *Emeritus Faculty*, Anthropology (2010)

## K

Kahn, David - *Emeritus Faculty*, Film and Theatre (2016)

Kajiwara, Sandra - *Emeritus Faculty*, University Library (2007)

Kallis, Morton - *Emeritus Faculty*, Marketing and Business Analytics (2018)

Kao, Arthur - *Emeritus Faculty*, Art and Art History (2011)

Karlinsky, Stewart - *Emeritus Faculty*, Accounting and Finance (2007)

Keady, Richard - *Emeritus Faculty*, Humanities (2013)

Keeseey, Donald - *Emeritus Faculty*, English (2006)



Kellum, Kenneth - *Emeritus Faculty*, Mathematics (2014)  
Kelly, John - *Emeritus Faculty*, Psychology (2005)  
Kemp, Jerry - *Emeritus Faculty*, College of Education (2007)  
Kendall, Susan - *Emeritus Faculty*, University Library (2019)  
Kenk, Vida - *Emeritus Faculty*, University Library (2010)  
Kennedy, Jean - *Emeritus Faculty*, Biological Sciences (2015)  
Khuri, Sami - *Emeritus Faculty*, Computer Science (2019)  
Kibler, Ruthann - *Emeritus Faculty*, Biological Sciences (2009)  
Kifer, Ruth - *Emeritus Staff*, University Library (2016)  
Killingsworth, Amy - *Emeritus Faculty*, Occupational Therapy (2010)  
Kim, Chungsoon - *Emeritus Faculty*, Child and Adolescent Development (2007)  
Kimbarow, Michael - *Emeritus Faculty*, Communicative Disorders and Science (2019)  
Kirchherr, Walter - *Emeritus Faculty*, Computer Science (2007)  
Klingberg, Susan - *Emeritus Faculty*, University Library (2010)  
Kowalczyk, Bridget - *Emeritus Faculty*, University Library (2015)  
Kowalewski Ward, Julie - *Emeritus Staff*, University Library (2018)  
Krovetz, Martin - *Emeritus Faculty*, Educational Leadership (2007)  
Kumamoto, Robert - *Emeritus Faculty*, History (2010)  
Kumaravadivelu, B - *Emeritus Faculty*, Linguistics and Language Development (2019)  
Kupcho, Marilyn - *Emeritus Staff*, College of Education (2006)  
Kurzweil, Jack - *Emeritus Faculty*, Electrical Engineering (2007)  
Kutilek, Michael - *Emeritus Faculty*, College of Science (2011)  
Kwan, Stephen - *Emeritus Faculty*, College of Business (2017)

## L

Lam, Lui - *Emeritus Faculty*, Physics and Astronomy (2018)  
Lamendella, John - *Emeritus Faculty*, Linguistics and Language Development (2007)  
Langdon, Henriette - *Emeritus Faculty*, Communicative Disorders and Science (2017)  
Lappin, Linda - *Lecturer Emerita*, English (2019)

Larson, Richard - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2019)

Lawrence, Anne - *Emeritus Faculty*, School of Management (2018)

Lawrence, Clyde - *Emeritus Faculty*, Journalism and Mass Communications (2008)

Lawson, Lucinda - *University Staff, Retired*, Electrical Engineering (2019)

Layton, Thomas - *Emeritus Faculty*, Anthropology (2011)

Le, Tuan - *Emeritus Faculty*, KSJS Radio (2009)

Lee, Rose - *Emeritus Staff*, Administration and Finance (2011)

Lessow-Hurley, Judith - *Emeritus Faculty*, Teacher Education (2015)

Leung, Kai - *Emeritus Faculty*, World Languages and Literatures (2006)

Leventhal, Alan - *Emeritus Staff*, College of Social Sciences (2019)

Levine, Linda - *Emeritus Faculty*, Public Health and Recreation (2018)

Lewis, Carolyn - *Emeritus Faculty*, Athletic Director's Office (2006)

Lewis, Edward - *Emeritus Faculty*, College of Education (2006)

Lewis, Irene - *Emeritus Faculty*, Nursing (2012)

Lindholm-Leary, Kathryn - *Emeritus Faculty*, Child and Adolescent Development (2011)

Liu, Mengxiong - *Emeritus Faculty*, University Library (2016)

Liu, Susana - *Emeritus Faculty*, University Library (2014)

Lore, Craig - *Lecturer Emeritus*, English (2019)

Louden, Kenneth - *Emeritus Faculty*, Computer Science (2010)

Lovell, Jonathan - *Emeritus Faculty*, English (2019)

Lowenberg, Peter - *Emeritus Faculty*, Linguistics and Language Development (2010)

Lu, Nancy - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2011)

Lull, James - *Professor Emeritus*, Communication Studies (2004)

Lynch, Divina - *Emeritus Faculty*, University Library (2015)

## M

Macrae, Anne - *Emeritus Faculty*, Occupational Therapy (2015)

Maldonado-Colon, Elba - *Emeritus Faculty*, College of Education (2019)

Male, Marilyn - *Emeritus Faculty*, Special Education (2007)

Mamary, Edward - *Emeritus Faculty, Public Health and Recreation* (2020)

Manning, Rita - *Emeritus Faculty, Philosophy* (2020)

Maples, Susan - *Emeritus Staff, College of Engineering* (2015)

Margolin, Cynthia - *Emeritus Faculty, Psychology* (2008)

Markowitz, Nancy - *Emeritus Faculty, Teacher Education* (2016)

Martin, Harris - *Emeritus Faculty, History* (2005)

Martinelli, Kathleen - *Emeritus Faculty, Journalism and Mass Communications* (2018)

Master, Peter - *Emeritus Faculty, Linguistics and Language Development* (2004)

Masters, Gary - *Emeritus Faculty, Music and Dance* (2015)

Mathews, Fred - *Emeritus Faculty, Film and Theatre* (2019)

Matson, John - *Emeritus Faculty, Biological Sciences* (2009)

May, Anthony - *Emeritus Faculty, Art and Art History* (2009)

Mayer, Ludwig - *Emeritus Faculty, Chemistry* (2012)

McClintick, Anita - *Emeritus Staff, Music and Dance* (2019)

McClory, Susan - *Emeritus Faculty, Mathematics* (2016)

McCraw, William - *Emeritus Faculty, Political Science* (2006)

McIntyre, Michael - *Emeritus Faculty, Geography* (2011)

McNiesh, Susan - *Emeritus Faculty, Nursing* (2018)

McWilliams, Mallory - *Lecturer Emeriti, Accounting and Finance* (2020)

Mckinnon, Tamara - *Emeritus Faculty, Nursing* (2019)

McProud, Lucy - *Emeritus Faculty, Nutrition, Food Science and Packaging* (2018)

Megginson, Nancy - *Emeritus Faculty, Kinesiology* (2018)

Meldal, Sigurd - *Emeritus Faculty, Computer Engineering* (2020)

Melkonian, Lina - *Emeritus Staff, Development University Advancement* (2014)

Menges, Howard - *Emeritus Faculty, Kinesiology* (2005)

Merdinger, Joan - *Emeritus Faculty, Social Work* (2012)

Meredith, William - *Emeritus Faculty, Music and Dance* (2016)

Meserve, Harry - *Emeritus Faculty, University Library* (2010)

Meshner, David - *Emeritus Faculty, Humanities* (2018)

Meyers, Susan - *Emeritus Faculty, Special Education* (2009)

Millner, Steven - *Emeritus Faculty*, African American Studies (2019)

Moore, Robert - *Emeritus Faculty*, College of Health and Human Sciences (2009)

Moran, Meredith - *Emeritus Faculty*, Student Involvement (2006)

Moran, Sandra - *Retired Staff*, Advancement and Campaign Operations (2015)

Mori, Joseph - *Emeritus Faculty*, Accounting and Finance (2010)

Moriarty, Eugene - *Emeritus Faculty*, Electrical Engineering (2012)

Morris, Hedley - *Emeritus Faculty*, Mathematics (2007)

Moschetti, Thomas - *Emeritus Faculty*, Accounting and Finance (2016)

Mostafavi, Masoud - *Emeritus Faculty*, Electrical Engineering (2013)

Moustakas, Evangelos - *Emeritus Faculty*, Electrical Engineering (2007)

Movassat, Johanna - *Lecturer Emerita*, Art and Art History (2019)

Mukhopadhyay, Carol - *Emeritus Faculty*, Anthropology (2010)

Mumby, H. Hugh - *Emeritus Faculty*, Kinesiology (2006)

Murphy, Susan - *Emeritus Faculty*, Nursing (2007)

Murray, Denise - *Emeritus Faculty*, Linguistics and Language Development (2006)

Murray, Susan - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2019)

Myatt, Rodney - *Emeritus Faculty*, Biological Sciences (2009)

## N

Nakamura, Phyllis - *Emeritus Staff*, Psychology (2008)

Nance, William - *Emeritus Faculty*, Information Systems and Technology (2017)

Nichols, Patricia - *Emeritus Faculty*, Linguistics and Language Development (2011)

Nino, Mary - *Emeritus Staff*, University Library (2015)

Noble, Lela - *Emeritus Faculty*, Political Science (2002)

Nobuhiro, K - *Emeritus Staff*, Academic Planning and Budgets (2010)

Norwood, B - *Emeritus Faculty*, School of Management (2004)

Nuger, Kenneth - *Emeritus Faculty*, Political Science (2016)

## O

Obaid, Evelyn - Emeritus Faculty, Computer Science (2007)  
Ochoa, Maria - Emeritus Faculty, Sociology and Interdisciplinary Social Sciences (2017)  
Ohala, Manjari - Emeritus Faculty, Linguistics and Language Development (2015)  
Okerlund, Arlene - Emeritus Faculty, English (2007)  
Olcott, Marianina - , Humanities (2015)  
Olliges, Sandra - Emeritus Faculty, Kinesiology (2018)  
Ortega, Lydia - Emeritus Faculty, Economics (2020)  
Otten, Charles - Emeritus Faculty, Sociology and Interdisciplinary Social Sciences (2005)  
Ozaki, Linda - Emeritus Staff, Athletic Director's Office (2017)

## P

Parker, Joan - *Emeritus Faculty*, University Library (2016)  
Parrish, James - *Emeritus Faculty*, Biological Sciences (2019)  
Parrish, Vicki - *Emeritus Faculty*, Computer Engineering (2018)  
Parsons, Sharon - *Emeritus Faculty*, Teacher Education (2011)  
Parsons, Virgil - *Emeritus Faculty*, Nursing (2009)  
Parvin, Kiumars - *Emeritus Faculty*, Physics and Astronomy (2016)  
Paul, H - *Emeritus Faculty*, University Library (2011)  
Payne, Virgil - *Emeritus Faculty*, Kinesiology (2018)  
Pedretti, Lorraine - *Emeritus Faculty*, Occupational Therapy (2005)  
Pellegrini, Robert - *Emeritus Faculty*, Psychology (2009)  
Pendleton, Heidi - *Emeritus Faculty*, Occupational Therapy (2019)  
Perales, Daniel - *Emeritus Faculty*, Public Health and Recreation (2014)  
Perry, Richard - *Emeritus Faculty*, Justice Studies (2015)  
Pesek, Joseph - *Emeritus Faculty*, Chemistry (2019)  
Peterson, Christina - *Emeritus Faculty*, University Library (2013)  
Pfieffer, Richard - *Emeritus Faculty*, Mathematics (2019)  
Phillips, Veril - *Emeritus Faculty*, Computer Science (2000)  
Pierce, Lorna - *Lecturer Emerita*, Anthropology (2019)

Pizzo, Patrick - *Emeritus Faculty*, Chemical and Materials Engineering (2009)

Poindexter, Elizabeth - *Emeritus Faculty*, Film and Theatre (2010)

Pollock, John - *Emeritus Faculty*, English (2008)

Post, Richard - *Emeritus Faculty*, Mathematics (2005)

Powers, Harry - *Emeritus Faculty*, Art and Art History (2012)

Probasco, Preston - *Emeritus Faculty*, School of Management (2011)

Prochaska, Fred - *Emeritus Faculty*, School of Social Work (2017)

## Q

Qayoumi, Mohammad - *Emeritus Staff*, Office of the President (2016)

Quintanar-Sarellana, Rosalinda - *Emeritus Faculty*, *Teacher Education* (2020)

## R

Radde, Bruce - *Emeritus Faculty*, Art and Art History (2005)

Ramonda, Robert - *Emeritus Faculty*, College of Education (2006)

Reckmeyer, William - *Emeritus Faculty*, Anthropology (2016)

Redfern, Bernice - *Emeritus Faculty*, University Library (2014)

Reis, Seniorina - *Emeritus Faculty*, Educational Leadership (2018)

Reischl, Peter - *Emeritus Faculty*, Electrical Engineering (2015)

Reynolds, Edward - *Emeritus Faculty*, History (2018)

Reynolds, Judith - *Emeritus Faculty*, University Library (2006)

Reza, Ali - *Emeritus Lecturer*, Accounting and Finance (2016)

Roberg, Roy - *Emeritus Faculty*, Justice Studies (2013)

Robinson, Michael - *Emeritus Faculty*, Computer Engineering (2018)

Rodriguez, Lorraine - *Emeritus Faculty*, Nursing (2017)

Rothblatt, Donald - *Emeritus Faculty*, Urban and Regional Planning (2006)

Rowntree, Lester - *Emeritus Faculty*, Environmental Studies (2006)

## S

Salazar, Dayana - *Emeritus Faculty*, College of Social Sciences (2019)

Samway, Katharine - *Emeritus Faculty*, Teacher Education (2011)

Sanderson, George - *Emeritus Faculty*, Accounting and Finance (2007)

Sapiens, Alexander - *Emeritus Faculty*, Teacher Education (2010)

Sawyer, Jeanne - *Emeritus Faculty*, Information Systems and Technology (2019)

Saylor, Coleen - *Emeritus Faculty*, Nursing (2009)

Schmeichel, Edward - *Emeritus Faculty*, Mathematics (2015)

Schmidt, C - *Emeritus Faculty*, School of Information (2010)

Schragg, Eugene - *Lecturer Emeritus*, English (2019)

Schwartz, Kathleen - *Emeritus Faculty*, Occupational Therapy (2011)

Sedlock, Richard - *Emeritus Status*, College of Science (2012)

Selter, Gerald - *Emeritus Faculty*, Chemistry (2011)

Selter, Gerald - *Emeritus Staff*, Provost/SVP Academic Affairs (2011)

Serrett, Karen - *Emeritus Faculty*, Occupational Therapy (2006)

Sharestein, Harvey - *Emeritus Faculty*, Inactive -Mech and Aerospace Engineering (2005)

Sharp, Pamela - *Emeritus Faculty*, Art and Art History (2007)

Shaw, William - *Emeritus Faculty*, Philosophy (2018)

Shieh, Yeung-Nan - *Emeritus Faculty*, Economics (2015)

Sigler, Maria - *Professor Emerita*, World Languages and Literatures (2015)

Simons, Edgar - *Emeritus Faculty*, Mathematics (2005)

Simonson, Anne - *Emeritus Faculty*, Art and Art History (2019)

Singh, Avtar - *Emeritus Faculty*, Electrical Engineering (2016)

Singh, Rameshwar - *Emeritus Faculty*, Civil and Environmental Engineering (2012)

Sinton, Douglas - *Emeritus Faculty*, Meteorology and Climate Science (2011)

Sisson, Lorene - *Emeritus Faculty*, University Library (2011)

Sivertsen, Aimee - *Emeritus Faculty*, Counseling and Psychological Services (2014)

Slayton, Joel - *Emeritus Faculty*, Art and Art History (2017)

Sloan, Stephen - *Emeritus Staff*, Instructional and Meeting Spaces (2017)

Smith, Elveda - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2007)

Smith, Jeffrey - *Emeritus Faculty*, Computer Science (2016)

Smith, Jerry - *Emeritus Faculty*, Biological Sciences (2015)

Smith, Lonna - *Emeritus Faculty*, Secondary Education (2007)

Snell, Jacqueline - *Emeritus Faculty*, Marketing and Business Analytics (2016)

Snowbarger, Marvin - *Emeritus Faculty*, Economics (2006)

Soto, Margaret - *Emeritus Staff*, Office of the President (2017)

Southam, Marti - *Emeritus Faculty*, Occupational Therapy (2008)

Speck, Marsha - *Emeritus Faculty*, Educational Leadership (2007)

Sprague, Jo - *Emeritus Faculty*, Communication Studies (2006)

Sproule, James - *Emeritus Faculty*, Communication Studies (2002)

Sreeharsha, Karnamadakala - *Emeritus Faculty*, Chemical and Materials Engineering (2005)

Stahl, Rae - *Emeritus Staff*, University Library (2018)

Stanley, Maurice - *Emeritus Faculty*, Mathematics (2020)

Steinberg, Jill - *Emeritus Faculty*, Counseling and Psychological Services (2009)

Stern, Frederick - *Emeritus Faculty*, Mathematics (2007)

Sternlieb, Myra - *Emeritus Faculty*, Nursing (2019)

Stevens, Calvin - *Emeritus Faculty*, Geology (2011)

Stone, Bradley - *Emeritus Faculty*, Chemistry (2019)

Strandburg, Donald - *Emeritus Faculty*, Physics and Astronomy (2005)

Strasilla, Udo - *Emeritus Faculty*, Electrical Engineering (2015)

Straus, Daniel - *Emeritus Faculty*, Chemistry (2019)

Strong, Anna - *Emeritus Faculty*, Mathematics (2018)

Stross, Randall - *Emeritus Faculty*, School of Management (2018)

Stuenkel, Diane - *Emeritus Faculty*, Nursing (2018)

Sucher, Kathryn - *Emeritus Faculty*, Nutrition, Food Science and Packaging (2013)

Swann, Howard - *Emeritus Faculty*, Mathematics (2011)

Sylvia, Ronald - *Emeritus Faculty*, Political Science (2010)

## T

Tai, Ping - *Emeritus Staff*, University Library (2015)



Taketa, Richard - *Emeritus Faculty*, Geography (2015)  
Taylor, Brian - *Emeritus Faculty*, Art and Art History (2017)  
Thames, Terri - *Emeritus Faculty*, Counseling and Psychological Services (2012)  
Thomas, Jerry - *Emeritus Faculty*, Marketing and Business Analytics (2013)  
Thurston, Jacqueline - *Professor*, Art and Art History (2007)  
Tiedt, Sidney - *Emeritus Faculty*, College of Education (2006)  
Tieszen, Richard - *Emeritus Faculty*, Philosophy (2016)  
Toepfer, Karl - *Professor Emeritus*, Film and Theatre (2015)  
Tomley, Leslie - *Emeritus Faculty*, Physics and Astronomy (2009)  
Trudeau, Danielle - *Emeritus Faculty*, World Languages and Literatures (2016)  
Tsai, Kuei-Wu - *Emeritus Faculty*, Civil and Environmental Engineering (2015)  
Tu, Elizabeth - *Emeritus Staff*, Center for Faculty Development (2020)  
Turner, Marlene - *Emeritus Faculty*, School of Management (2017)

## U

Uhlik, Kim - *Emeritus Faculty*, Hospitality, Tourism and Event Management (2011)  
Underdal, Stanley - *Emeritus Faculty*, History (2010)

## V

Vahey, Terry - *Emeritus Staff*, Information Technology (2017)  
Vasquez, George - *Emeritus Faculty*, History (2019)  
Vasquez, Linda - *University Administrator, Retired*, Business Operations (2006)  
Venkatsubramanian, Shailaja - *Emeritus Faculty*, Information Systems and Technology (2019)  
Villagran, Gilbert - *Emeritus Faculty*, School of Social Work (2017)  
Viriden, Randy - *Emeritus Faculty*, Hospitality, Tourism and Event Management (2014)  
Voth, Alden - *Emeritus Faculty*, Political Science (2009)

## W

Wagers, Robert - *Emeritus Faculty*, School of Information (2010)

Wagner, John - *Emeritus Faculty*, College of Engineering (2013)

Walker, Dan - *Emeritus Faculty*, Biological Sciences (2008)

Walker, Ethel - *Professor Emerita*, Film and Theatre (2014)

Wall, Jack - *Emeritus Faculty*, School of Social Work (2019)

Wall, Kathleen - *Emeritus Faculty*, Counseling and Psychological Services (2004)

Walsh, James - *Emeritus Faculty (Dean)*, College of Science (2010)

Walsh, Linda - *Emeritus Faculty*, Art and Art History (2011)

Walter, Leta - *Emeritus Faculty*, Kinesiology (2007)

Walters, Sheryl - *Emeritus Staff*, Alumni and Community Engagement (2011)

Wander, Philip - *Emeritus Faculty*, Communication Studies (2006)

Wang, Ji - *Professor Emeritus*, Inactive -Mech and Aerospace Engineering (2013)

Warren, Shirley - *Emeritus Staff*, Instructional and Meeting Spaces (2013)

Wassenaar, Dirk - *Emeritus Faculty*, Marketing and Business Analytics (2010)

Watkins, Thayer - *Emeritus Faculty*, Economics (2008)

Weddington, Donald - *Emeritus Faculty*, College of Science (2008)

Weddington, Gloria - *Emeritus Faculty*, Communicative Disorders and Science (2012)

Weedman, Judith - *Emeritus Faculty*, School of Information (2014)

West, Joel - *Emeritus Faculty*, School of Management (2011)

Whaley, George - *Emeritus Faculty*, School of Management (2010)

White, Steven - *Emeritus Faculty*, Biological Sciences (2013)

Whitlatch, Jo - *Emeritus Faculty*, University Library (2006)

Whittaker, Andrea - *Emeritus Faculty*, Teacher Education (2010)

Wilcox, Dennis - *Emeritus Faculty*, Journalism and Mass Communications (2010)

Wilkinson, Susan - *Emeritus Faculty*, Kinesiology (2014)

Williams, Gareth - *Emeritus Faculty*, Physics and Astronomy (2006)

Williams, John - *Emeritus Faculty*, Geology (2011)

Williams, Nancy - *Emeritus Faculty*, Psychology (2010)

Wilson, William - *Emeritus Faculty*, English (2019)

Wong, Yen - *Professor Emerita*, Film and Theatre (2010)

Woolfs, Esther - *Emeritus Faculty*, School of Information (2010)

Wu, Yuh-Fen - *Emeritus Faculty*, University Library (2019)

Wyman, Daniel - *Professor Emeritus*, Music and Dance (2010)

Wyman, Marilyn - *Lecturer Emerita*, Humanities (2015)

## Y

Yamato, Alexander - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2019)

Yang, Charlotte - *Professor Emerita*, Justice Studies (2014)

Yengoyan, Leon - *Emeritus Faculty*, Chemistry (2007)

Yoder, Marian - *Emeritus Faculty*, Nursing (2009)

Young, Allen - *Emeritus Faculty*, Sociology and Interdisciplinary Social Sciences (2008)

## Z

Zaretsky, Kathleen - *Emeritus Faculty*, Anthropology (2016)

Zargar, Ali - *Emeritus Faculty*, Technology (2018)

Zlotolow, Steve - *Emeritus Staff*, CPGE Central Administration (2014)

Zoroofchi, Mahammad - *Emeritus Faculty*, Electrical Engineering (2016)

Zsutty, Theodore - *Emeritus Faculty*, Civil and Environmental Engineering (2005)

# Institutional Learning

University Learning Goals | Program Learning Outcomes | GE Learning Goals | Course Learning Outcomes

## Mission

In collaboration with nearby industries and communities, SJSU faculty and staff are dedicated to achieving the university's mission as a responsive institution of the state of California: To enrich the lives of its students, to transmit knowledge to its students along with the necessary skills for applying it in the service of our society, and to expand the base of knowledge through research and scholarship.

*Relationship of Course Learning Outcomes through the University Mission: Adapted from National Institute for Learning Outcomes Assessment.*

## University Learning Goals (ULGs)

In 2013, SJSU developed University Learning Goals to uniquely define the skills and knowledge of San Jose State University graduates. These goals help students understand the purpose of their time at SJSU and guide academic planning and curriculum development.

The SJSU experience is designed to ensure that students have the power to be lifelong learners and have successful futures. This preparation begins as students complete their general education requirements, and continues through SJSU Studies and their majors.

Begin here to learn more about the goals SJSU has for its students, and how those goals power the student experience from lower-division general education programs, through majors and concentrations, and capstone courses.

## University Goals Power Lifelong Learning

The student learning experience at SJSU is centered on helping students achieve seven important goals. These goals represent the skills and knowledge that power lifelong learning and career success.

San José State University graduates will have developed:

### 1. Social and Global Responsibilities

- An ability to consider the purpose and function of one's degree program training within various local and/or global social contexts and to act intentionally, conscientiously, and ethically with attention to diversity and inclusion.

### 2. Specialized Knowledge

- Depth of knowledge required for a degree, as appropriate to the discipline.

### 3. Intellectual Skills

- Fluency with specific theories, assumptions, foundational knowledge, analytical and interpretive protocols, tools, and technologies appropriate to the discipline or field of study.

- Skills necessary for mastery of a discipline at a level appropriate to the degree and leading to lifelong learning, including critical and creative thinking and practice, effective communication, thorough and ethical information gathering and processing, competence with quantitative and/or qualitative methodologies, and productive engagement in collaborative activities.
- For undergraduate students in a baccalaureate program: an understanding of critical components of broad academic areas, including the arts, humanities, social sciences, quantitative reasoning, and sciences.

#### 4. Integrative Knowledge and Skills

- Mastery in each step of an investigative, creative, or practical project (e.g., brainstorming, planning, formulating hypotheses or complex questions, designing, creating, completing, and communicating) with integration within and/or across disciplines.
- An ability to articulate the potential impacts of results or findings from a particular work or field in a societal context.

#### 5. Applied Knowledge

- An ability to apply theory, practice, and problem solving to new materials, settings, and problems.

## Program Learning Outcomes (PLOs)

- Graduate Program Learning Outcomes
- Undergraduate Program Learning Outcomes

## Co-Curricular Programs

- Service Departments and Services Program Learning Goals

## General Education Learning Goals

Students who complete the General Education curriculum should be able to demonstrate:

- **Knowledge of Human Cultures and the Physical and Natural World**  
(focused by engagement with big questions, both contemporary and enduring through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts)
- **Intellectual and Practical Skills**  
(practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance)
- **Personal and Social Responsibility**  
(anchored through active involvement with diverse communities and real-world challenges)
- **Integrative Learning**  
(demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems)

The advancement of academic discourse requires civility and a respectful attitude toward all in the expression and consideration of a variety of viewpoints. All courses shall reinforce the ethical responsibility of students and instructors to acknowledge respectfully the learning styles and forms of expression of individuals and members of all groups.

## **Basic Skills of an Educated Person**

Basic Knowledge of an Educated Person courses help build key skills for learning - communication and critical thinking. An educated person can communicate ideas effectively both verbally and in writing. Being able to organize and express ideas is a key part of learning. An educated person must also have strong reasoning powers in order to analyze critically all types of information. The skills courses within General Education provide an opportunity for students to gain and enhance critical communication and analytical skills.

## **Basic Knowledge of an Educated Person**

Basic Skills of an Educated Person courses help students gain the fundamental knowledge of an educated person. Students will have an opportunity to demonstrate an appreciation of the fundamentals of science, arts and letters, and the forces that shape the individual and modern society throughout the lifespan. This fundamental knowledge is crucial to understanding more advanced topics, including a major field of study

## **Integrated Knowledge of an Educated Person**

Integrative Knowledge of an Educated Person courses will help students become integrated thinkers who can see connections between and among a variety of concepts and ideas. An educated person will be able to apply concepts and foundations learned in one area to other areas as part of a lifelong learning process. These courses will help students to live and work intelligently, responsibly, and cooperatively in a multicultural society and to develop abilities to address complex issues and problems using disciplined analytical skills and creative techniques.

## **Course Learning Outcomes (CLOs)**

Course Learning Outcomes are identified on each course syllabus (per University Policy S16-9).

## Basic Skills of an Educated Person

By completing these GE requirements, students gain the power to understand and use numerical and graphical information, think critically and come to conclusions through rational processes, and express those thoughts with a confident voice and effective use of the written word.

## Expectations for Learning in Oral Communication (A1) Courses

Courses cultivate an understanding of the social, psychological, political and practical significance of communication, with special emphasis on the roles of public communication in a free society. Students will give oral presentations and be encouraged to develop their sense of voice, which means speaking with confidence in public forums in ways that reflect their unique perspective and identity. Students will learn and appreciate a range of public speaking styles and forms of eloquence, while respecting the freedom of expression of all members of the community.

Students shall be able to:

1. Identify and assess socially significant and intellectual topics, then compose and deliver extemporaneous oral presentations on these topics;
2. Engage in critical and analytical listening;
3. Analyze audiences, adapt oral presentations to audiences and use that information to accomplish the purpose of the speech; and
4. Assume the ethical responsibilities of the public speaker, including basic understanding of the economic, legal, and social issues surrounding the access and use of information.

## Expectations for Learning in Written Communication (A2) Courses

Courses should cultivate an understanding of the writing process and the goals, dynamics, and genres of written communication, with special attention to the nature of writing at the university. Students will develop college---level reading abilities, rhetorical sophistication, and writing styles that give form and coherence to complex ideas and feelings.

Students shall write complete essays that demonstrate the ability to:

1. Demonstrate the ability to read actively and rhetorically
2. Demonstrate the ability to perform the essential steps in the writing process (prewriting, organizing, composing, revising, and editing) and demonstrate an awareness of said performance
3. Articulate an awareness of and write according to the rhetorical features of texts, such as purpose, audience, context, and rhetorical appeals
4. Demonstrate the ability to integrate their ideas and those of others by explaining, analyzing, developing, and criticizing ideas effectively in several genres
5. Demonstrate college---level language use, clarity, and grammatical proficiency in writing

## Expectations for Learning in Critical Thinking (A3) Courses

In Critical Thinking courses, students will understand logic and its relationship to language: courses include a series of integrated reading, writing, oral, and research assignments that engage students in complex issues requiring critical thinking and effective argumentation. Students will develop language that distinguishes fact and judgment; articulates elementary inductive and deductive processes; parses fact, assumption and conclusion; integrates rebuttal and qualification as appropriate. Students will develop the ability to analyze, criticize, and advocate complex ideas, reason inductively and deductively, research and rebut information and arguments, and reach well---supported factual conclusions and judgments.

Students should be able to:

1. Locate and evaluate sources, through library research, and integrate research through appropriate citation and quotation.
2. Present effective arguments that use a full range of legitimate rhetorical and logical strategies to articulate and explain their positions on complex issues in dialogue with other points of view.
3. Effectively locate, interpret, evaluate, and synthesize evidence in a comprehensive way in support of one's ideas.
4. Identify and critically evaluate the assumptions in and the context of an argument.
5. Effectively distinguish and convey inductive and deductive patterns as appropriate, sequencing arguments and evidence logically to draw valid conclusions and articulate related outcomes (implications and consequences).

## Expectations for Learning in Mathematical Concepts (B4) Courses

The major goal is to enable the student to use numerical and graphical data in personal and professional judgments and in coping with public issues.

The mathematical concepts course should prepare the student to:

1. Use mathematical methods to solve quantitative problems, including those presented in verbal form;
2. Use mathematics to solve real-life problems; and
3. Arrive at conclusions based on numerical and graphical data.



## Basic Knowledge of an Educated Person

Students complete these courses to gain a foundation of knowledge to power their exploration and integration of many fields of study. At the end, students will have self-knowledge and awareness, and master the fundamentals of science, arts and letters, and the forces that shape the individual and modern society through which they will travel their lives.

## Learning Goals for Science (B1, B2, B3) Courses

Science is a continuous and adaptive process through which we discover and communicate how the natural world works, separate fact from inference, and establish testable hypotheses. All students should sufficiently master essential quantitative and qualitative skills that are necessary to understand scientific knowledge and methods. Students should be able to incorporate scientific knowledge into the workplace and everyday life experiences.

Students should be able to:

1. use the methods of science and knowledge derived from current scientific inquiry in life or physical science to question existing explanations;
2. demonstrate ways in which science influences and is influenced by complex societies, including political and moral issues; and
3. recognize methods of science, in which quantitative, analytical reasoning techniques are used.

## Learning Goals for Arts (C1) Courses

The Arts and Letters disciplines provide knowledge and understanding of significant works of the human intellect and imagination. All students will examine the interaction of analytical and creative processes in the production and perception of such works, and the significance of the historical and cultural contexts in which the works are created and interpreted. Courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives.

Students will be able to:

1. recognize aesthetic qualities and processes that characterize works of the human intellect and imagination;
2. respond to works of art both analytically (in writing) and affectively (in writing or through other forms of personal and artistic expression); and
3. write clearly and effectively.

## Learning Goals for Letters (C2) Courses

Students will be able to:

1. recognize how significant works illuminate enduring human concerns;
2. respond to such works writing both research-based critical analyses and personal responses; and
3. write clearly and effectively.

# Learning Goals for Social Sciences Courses

Social Science courses increase the student's understanding of human behavior and social interaction in the context of value systems, economic structures, political institutions, social groups, and natural environments.

Students will be able to:

1. place contemporary developments in cultural, historical, environmental, and spatial contexts;
2. identify the dynamics of ethnic, cultural, gender/sexual, age-based, class, regional, national, transnational, and global identities and the similarities, differences, linkages, and interactions between them; and
3. evaluate social science information, draw on different points of view, and formulate applications appropriate to contemporary social issues.

## Learning Goals for Human Behavior Courses (D1)

Students will be able to recognize the interaction of social institutions, culture, and environment with the behavior of individuals.

## Learning Goals for Comparative Systems, Cultures and Environments Courses (D2)

Students will be able to compare and contrast two or more ethnic groups, cultures, regions, nations, or social systems.

## Learning Goals for Social Issues Courses (D3)

Students will be able to apply multidisciplinary material to a topic relevant to policy and social action at the local, national, and/or international levels.

## Learning Goals for Human Understanding and Development Courses (E)

Students shall:

1. recognize the physiological, social/cultural, and psychological influences on their well-being;
2. recognize the interrelation of the physiological, social/cultural, and psychological factors on their development across the lifespan;
3. use appropriate social skills to enhance learning and develop positive interpersonal relationships with diverse groups and individuals; and
4. recognize themselves as individuals undergoing a particular stage of human development, how their well being is affected by the university's academic and social systems, and how they can facilitate their development within the university environment.

## **Integrative Knowledge of an Educated Person**

When students have completed these courses they will have the power to live and work intelligently, responsibly, and cooperatively in a complex and ever-changing multicultural society. They will be able to use disciplined analytic skills and creative techniques to problem-solve and innovate. They will have the power to make wise decisions, to navigate the multicultural societies within and outside of the US, and to communicate these understandings through effective writing.

## **Learning Goals for Science (R) Courses: Earth and Environment**

Students will cultivate knowledge of the scientific study of the physical universe or its life forms. Students will understand and appreciate the interrelationship of science and human beings to each other.

Within the particular scientific content of the course, a student should be able to:

1. demonstrate an understanding of the methods and limits of scientific investigation;
2. distinguish science from pseudo-science; and
3. apply a scientific approach to answer questions about the earth and environment.

## **Learning Goals for Social Science (S) Courses: Self, Society and Equality in the United States**

Students will study the interrelationship of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures.

After successfully completing the course, students shall be able to:

1. describe how identities (i.e. religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age) are shaped by cultural and societal influences within contexts of equality and inequality;
2. describe historical, social, political, and economic processes producing diversity, equality, and structured inequalities in the U.S.;
3. describe social actions which have led to greater equality and social justice in the U.S. (i.e. religious, gender, ethnic, racial, class, sexual orientation, disability, and/or age).; and
4. recognize and appreciate constructive interactions between people from different cultural, racial, and ethnic groups within the U.S.

## **Learning Goals for Humanities (V) Courses: Culture, Civilization, and Global Understanding**

Courses in Culture, Civilization, and Global Understanding should give students an appreciation for human expression in cultures outside the U.S. and an understanding of how that expression has developed over time. These

courses should also increase students' understanding of how traditions of cultures outside the U.S. have influenced American culture and society, as well as how cultures in general both develop distinctive features and interact with other cultures.

After successfully completing the course, students shall be able to:

1. compare systematically the ideas, values, images, cultural artifacts, economic structures, technological developments, and/or attitudes of people from more than one culture outside the U.S.;
2. identify the historical context of ideas and cultural traditions outside the U.S. and how they have influenced American culture; and
3. explain how a culture outside the U.S. has changed in response to internal and external pressures.

## **Learning Goals for Written Communication (Z) Courses**

Students shall be able to:

1. Produce discipline-specific written work that demonstrates upper-division proficiency in:
  - o language use
  - o grammar
  - o clarity of expression
2. Explain, analyze, develop, and criticize ideas effectively, including ideas encountered in multiple readings and expressed in different forms of discourse
3. Organize and develop essays and documents for both professional and general audiences
4. Organize and develop essays and documents according to appropriate editorial and citation standards
5. Locate, organize, and synthesize information effectively to accomplish a specific purpose, and to communicate that purpose in writing

# Service Departments and Services Program Learning Goals

## Division of Student Affairs

### Campus Life

- Associated Students, SJSU
- Lesbian, Gay, Bisexual & Transgender (LGBT) Resource Center
- MOSAIC Cross Cultural Center
- Office of Student Conduct & Ethical Development
- Student Involvement
- Student Union, Inc.
- University Housing Services
- Women's Resource Center (WRC)

### Enrollment Services

- Admission and Outreach
- Enrollment Operations and Communications
- Financial Aid and Scholarships Office
- Graduate Admissions and Program Evaluations
- Office of the Registrar
- Testing Office

### Student Services

- Accessible Education Center
- Career Center
- Counseling Services
- Military and Veterans Student Services
- Ombudsperson
- Student Health Center

# Undergraduate Program Learning Outcomes

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

## A

Advertising, BS

- PLO 1** Demonstrate knowledge of the diversity of groups in a global society in relationship to communications.
- PLO 2** Demonstrate the ability to think critically, creatively and independently.
- PLO 3** Write correctly and clearly in forms and styles appropriate for the communications professions, audiences, and purposes they serve.
- PLO 4** Demonstrate the ability to use tools and technologies appropriate for the communications professions in which they work.
- PLO 5** An ability to apply knowledge of mathematics, science, and engineering.

Aerospace Engineering, BS

- PLO 1** Problem Solving - Ability to identify, formulate, and solve complex aerospace engineering problems through application of mathematics, science, and engineering principles.
- PLO 2** Design to Meet Requirements and Constraints - Ability to design aerospace vehicles that meet specified requirements and subject to public health, safety and welfare, global, cultural, social, environmental, and economic constraints.
- PLO 3** Communicate Effectively - Ability to communicate effectively with a range of audiences.
- PLO 4** Ethical and Professional Responsibilities - Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, considering the impact of engineering solutions in global, economic, environmental, and societal contexts.
- PLO 5** Teamwork - Ability to function effectively on a team, whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- PLO 6** Experiments and Data Analysis - Ability to design and conduct appropriate experiments, analyze and interpret data, and use engineering judgment to draw conclusions.
- PLO 7** Knowledge Acquisition - Ability to acquire knowledge as needed, using appropriate learning strategies.

African American Studies, BA

- PLO 1** Describe global linkages between African Americans and other people of African descent throughout the world, articulate the impact of slavery of African peoples in U.S. society and explain how American society and its institutions have historically shaped Black Americans/African Americans.
- PLO 2** Describe and explain African-centered theories, concepts, and research.
- PLO 3** Critique historical and contemporary research literature, formulate research, interpret historical records, documents, and audiovisual materials, collect and analyze data, and draw conclusions that follow logically from the analysis.
- PLO 4** Demonstrate strong oral and written communication skills.
- PLO 5** Apply knowledge on behalf of the university, local, state, regional, national, and/or global community.

Anthropology, BA

- PLO 1** Understanding culture as the distinguishing phenomenon of human life, and the relationship of human biology and evolution.
- PLO 2** Awareness of human diversity and the ways humans have categorized diversity.
- PLO 3** Knowledge of the significant findings of archaeology, cultural anthropology, and physical anthropology, and familiarity of the important issues in each sub-discipline.

**PLO 4** Knowledge of the history of anthropological thought and its place in modern intellectual history.

**PLO 5** Comprehension of migration, colonialism, and economic integration as significant phenomenon shaping global society.

**PLO 6** Ability to access various forms of anthropological data and literature.

**PLO 7** Awareness of importance and value of anthropological knowledge in contemporary society, and the ability to apply it to social issues.

**PLO 8** Knowledge of the research methods of the sub-disciplines of anthropology, and the ability to apply appropriate research methods in at least one sub-discipline.

**PLO 9** Ability to present and communicate anthropological knowledge and the results of anthropological research to different audiences.

**PLO 10** Knowledge of political and ethical implications of social research.

Applied Mathematics, BS (Concentrations in Applied and Computational Mathematics and Statistics)

**PLO 1** The student will use mathematical models to solve practical problem.

**PLO 2** The student will read mathematics with understanding and communicate mathematical ideas with clarity and coherence.

**PLO 3** The student will perform standard mathematical computations with accuracy.

**PLO 4** The student will use technology to solve mathematical problems.

Art History and Visual Culture, BA

**PLO 1** Recognize and identify significant artworks and of the canon of historical periods customary in Western and Non-Western traditions.

**PLO 2** Translate visual perception into verbal analysis, using a variety of strategies to clearly communicate with an intended audience.

**PLO 3** Describe, analyze and explain artworks from differing historical and cultural contexts, using terms and concepts appropriate to specific historical and contemporary cultures.

**PLO 4** Investigate and communicate art historical information through research, documentation, and clearly written arguments that integrate appropriate theoretical perspectives.

**PLO 5** Discuss the theoretical, historiographic, and professional foundations of the discipline of Art History and apply this understanding to explaining and solving research problems.

Art, Animation/Illustration Concentration, BFA

**PLO 1** Create drawn images that demonstrate an understanding of the principles of color, design, optics, and perspective and the application of basic skills in life drawing and the physics of motion.

**PLO 2** Demonstrated ability in life drawing, applied knowledge of both digital and traditional painting, and intermediate studies in the physics of motion. Create sequential narratives that apply storytelling principles, and demonstrate the ability to work cooperatively.

**PLO 3** Create and develop original narrative, sequential projects-short films and tests incorporating visual development, modeling, storyboarding and animation.

**PLO 4** Apply professional standards and practices including proficiency in visual development, modeling, animation, or storyboarding.

**PLO 5** Demonstrate an understanding of art, film and animation history, theory, and criticism from a variety of perspectives, including those of art historians, animators and filmmakers, by creating, drawing, and applying knowledge to classroom tasks.

Art, BFA (Concentrations in Digital Media Art, Photography, Pictorial Art, and Spatial Art)

**PLO 1** Graduates will be able to analyze and research visual and conceptual problems and both apply and explain their use of basic design principles, concepts, tools, techniques, media, materials, formats, and visual languages to solve those problems. We expect our students to bring their expertise in finding visual-verbal solutions to problems as they embark on a lifetime of self- and professional employment in a variety of careers. As students they will demonstrate their development and application of art knowledge in a wide range of studio courses, culminating in a

capstone course.

**PLO 2** Graduates will be able to demonstrate increasing skills in the use of diverse materials, tools, and media, and be able to explain and evaluate success/failure in individual and group critiques. We expect our graduates to be lifelong problem-identifiers and problem solvers, always on the lookout for new and better skills. Prior to graduation, they will demonstrate their making/evaluating skills in studio courses and their skills of self-assessment and explanation in a sequence of interdisciplinary professional courses and in a capstone course.

**PLO 3** Graduates will demonstrate their commitment to valuing art's role in offering cultural critique and addressing issues of social responsibility in a global society. As creative professionals, our graduates will, we hope, assume leadership roles in engaging with social and cultural change-as teachers, as critics, as spokespersons for important issues that cannot yet be imagined. As undergraduates, our students will demonstrate their understanding of the values of contemporary art in their visual and written responses to class assignments in studio courses and in the interdisciplinary core and capstone courses (where these qualities will be assessed), in their work on collaborative group projects, in the successful articulation of their ideas in exhibitions and artist statements.

**PLO 4** Graduates will apply their knowledge of visual history and theory to their creative endeavors and to their professional practice. They will be able to speak and write clearly about art and global culture, using appropriate terminology and demonstrating their understanding of the contemporary art world. They will demonstrate their ability to place their own work within the broader context of historical and contemporary art and ideas. Our graduates will commit to continued personal engagement with intellectual issues in contemporary art and culture. As students, they will demonstrate their understanding of visual history and theory in assignments completed for their art history courses and their understanding of the intellectual context and historical precedents of their own work in assignments completed for their professional core and capstone courses.

**PLO 5** Our BFA graduates will demonstrate their readiness for careers as creative professionals by completing a more sequenced and specialized course of study in sculpture, installation and other three-dimensional art forms. Admission to the BFA requires students to demonstrate their ability to work independently as artists. Students will have successfully developed and presented for review by the Department's faculty (a) a unified body of work (10 images), (b) an artist statement (of purpose) and then secured (c) support and commitment of two area faculty members willing to serve on that student's BFA committee. Each BFA candidate then (d) successfully completes the professional BFA seminar and (e) schedules and mounts in one of the Department's student exhibition galleries a solo exhibition (as the work for ART 199) that meets the approval of the student's BFA committee. Our BFA graduates will embark on professional careers as practicing artists and creative professionals and/or apply to MFA programs for further instruction and certification for college/university teaching.

Art, BA (Concentration in Studio Practice and Studio Practice - Preparation for Teaching)

**PLO 1** Will be able to analyze and research visual and conceptual problems; both apply and explain their use of basic design principles, concepts, tools, techniques, media, materials, formats, and visual languages to solve those problems; demonstrate their development and application of art knowledge in a wide range of studio courses, culminating in a capstone course.

**PLO 2** Will be able to demonstrate increasing skills in the use of diverse materials, tools, and media; explain and evaluate success/failure in individual and group critiques; demonstrate their making/evaluating skills in studio courses and their skills of self-assessment and explanation in a sequence of interdisciplinary professional courses and in a capstone course.

**PLO 3** Will be able to demonstrate their commitment to valuing art's role in offering cultural critique and addressing issues of social responsibility in a global society; demonstrate their understanding of the values of contemporary art in their visual and written responses to class assignments in studio courses (and in the interdisciplinary core and capstone courses where these qualities will be assessed), in their work on collaborative group projects, and in the successful articulation of their ideas in exhibitions and artist statements.

**PLO 4** Will be able to apply knowledge of visual history and theory to creative endeavors and to their professional practice; speak and write clearly about art and global culture, using appropriate terminology and demonstrating their understanding of the contemporary art world; demonstrate their ability to place their own work within the broader context of historical and contemporary art and ideas; demonstrate their understanding of visual history and theory in assignments completed for their art history courses and their understanding of the intellectual context and historical precedents of their own work in assignments completed for their professional core and capstone courses.

Aviation, BS



- PLO 1** Apply current knowledge and adapt to emerging applications in aviation.
- PLO 2** Function effectively on teams.
- PLO 3** Communicate effectively.
- PLO 4** Understand the role and processes in team development, dynamics and management.
- PLO 5** Understand economic principles including: production theory and costs, cost benefit analysis, economic growth concepts, and international economic relationships and apply them to management of aviation operations.
- PLO 6** Understand career planning, flight certification, and the attributes and behavior of an aviation professional.
- PLO 7** Demonstrate an understanding of aircraft design, performance, operating characteristics, and maintenance as it relates to the student's career goals.
- PLO 8** Analyze and explain the role and regulations regarding aviation safety and human factors.
- PLO 9** Describe the legal and labor issues in national and international aviation operations.
- PLO 10** Describe meteorology and environmental issues as they relate to aviation.
- PLO 11** Apply business accounting and statistical analysis principles to financial situations in aviation.

## B

### Behavioral Science, BA

- PLO 1** Provide opportunities for students to synthesize the perspectives of the disciplines of anthropology, psychology, and sociology.
- PLO 2** Provide opportunities to apply the perspectives of the behavioral sciences to a variety of contemporary issues and professional settings.

### Biological Science, BA (Concentrations in General Biology, Microbiology, Molecular Biology, and Systems Physiology)

- PLO 1** Hypotheses and Experiments Students will demonstrate the ability to formulate hypotheses and design experiments to address a scientific question.
- PLO 2** Biology Content Students will demonstrate an understanding of the relevant content in their concentration.
- PLO 3** Laboratory or Field Skills Students will demonstrate laboratory or field skills relevant to their concentration.
- PLO 4** Scientific Writing Skills Students will demonstrate proficiency in scientific writing skills by effectively writing an advanced scientific paper.
- PLO 5** Oral Presentations Students will demonstrate proficiency in oral presentation skills by effectively presenting scientific research.

### Biomedical Engineering, BS

- PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- PLO 3** An ability to communicate effectively with a range of audiences.
- PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

### Business Administration, BS

**PLO 1** Understand basic business principles and demonstrate discipline-specific competencies as applied to local and global environments.

**PLO 2** Communicate ideas clearly, logically, and persuasively in oral and written format, using technology appropriately.

**PLO 3** Recognize, analyze, and articulate solutions to ethical issues that arise in business.

**PLO 4** Comprehend the challenges and opportunities of leading and working in diverse teams and environments.

**PLO 5** Comprehend, analyze, and critically evaluate complex and unstructured qualitative and quantitative business problems, using appropriate tools and technology.

**PLO 6** Recognize, analyze, and articulate strategies for promoting creativity and innovation.

## C

### Chemical Engineering, BS

**PLO 1** Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** Ability to communicate effectively with a range of audiences.

**PLO 4** Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, considering the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** Ability to function effectively on a team, whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

### Chemistry, BA

**PLO 1** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in inorganic chemistry.

**PLO 2** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in organic chemistry.

**PLO 3** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in analytical chemistry.

**PLO 4** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in physical chemistry.

**PLO 5** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in biochemistry.

**PLO 6** Answer questions regarding safe practices in the laboratory and chemical safety.

**PLO 7** Demonstrate safe laboratory skills (including proper handling of materials and chemical waste) for particular laboratory experiments.

**PLO 8** Effectively present a scientific paper that applies the scientific approach to address a chemical problem in a poster session, as at an American Chemical Society symposium.

**PLO 9** Effectively present a scientific paper orally applying the scientific approach, as at an American Chemical Society symposium.

**PLO 10** Write a formal scientific laboratory report which applies the scientific approach to address a chemical problem and follows the format and style of an article in a peer-reviewed American Chemical Society journal.

### Chemistry, BS (Concentrations in General Chemistry and Biochemistry)

**PLO 1** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in inorganic chemistry.

**PLO 2** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in organic chemistry.

**PLO 3** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve

problems in analytical chemistry.

**PLO 4** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in physical chemistry.

**PLO 5** Demonstrate understanding of core concepts, methods and limits of scientific investigation to effectively solve problems in biochemistry.

**PLO 6** Answer questions regarding safe practices in the laboratory and chemical safety.

**PLO 7** Demonstrate safe laboratory skills (including proper handling of materials and chemical waste) for particular laboratory experiments.

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**PLO 9** Effectively present a scientific paper orally applying the scientific approach, as at an American Chemical Society symposium.

**PLO 10** Write a formal scientific laboratory report which applies the scientific approach to address a chemical problem and follows the format and style of an article in a peer-reviewed American Chemical Society journal.

#### Child and Adolescent Development, BA (including a Preparation for Teaching Program)

**PLO 1** Define and understand basic elements of the four domains of development and draw on multiple perspectives to understand the interrelationships among these domains.

**PLO 2** Describe and evaluate different contextual perspectives that affect the growth and socialization experiences of children and adolescents.

**PLO 3** Identify and describe recognized ways to apply research, theory and problem-solving skills to address social policy, education, intervention, and practical situations.

**PLO 4** Differentiate between sources of information (research, professional, and popular) and evaluate the credibility and validity of each type of information source.

**PLO 5** Identify and describe key developmental questions in our field and define methods to investigate these questions.

**PLO 6** Demonstrate effective communication and interpersonal skills in fieldwork settings that exemplifies professional behavior designed to best facilitate the development of children and adolescents.

**PLO 7** Demonstrate understanding of effective advocacy and describe ethical issues present in our field and how these issues inform advocates' decision-making.

#### Chinese, BA

**PLO 1** Develop competence in speaking and listening comprehension in Mandarin Chinese.

**PLO 2** Command basic Chinese vocabulary. Refine grammatical structures and engage in critical thinking through a variety of tasks, activities, and assignments.

**PLO 3** Read authentic material in Chinese for informative purposes.

**PLO 4** Write in Chinese simple narration and description about given topics and events.

**PLO 5** Develop understanding of the traditional Chinese culture in light of contemporary values.

**PLO 6** Be able to compare systematically the ideas, values, images, or attitudes of people from various Chinese communities. Be able to identify the historic context of these ideas and cultural practices. Be able to explain how Chinese culture changes in response to internal and external pressures.

**PLO 7** Critical reading of pre-modern Chinese prose, poetry, and drama.

#### Civil Engineering, BS

**PLO 1** Graduates have an ability to apply knowledge of engineering, mathematics through differential equations, probability and statistics, calculus-based physics, chemistry, and one additional area of science.

**PLO 2** Graduates have an ability to design and conduct experiments, as well as to analyze and interpret data in more than one civil engineering area.

**PLO 3** Graduates have an ability to design a civil engineering system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

**PLO 4** Graduates have an ability to function as a member of a multi-disciplinary team, with the ability to explain the

role of a leader.

**PLO 5** Graduates have an ability to identify, formulate, and solve engineering problems in technical areas appropriate to civil engineering.

**PLO 6** Graduates understand professional and ethical responsibility.

**PLO 7** Graduates have an ability to communicate effectively.

**PLO 8** Graduates have the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and social context.

**PLO 9** Graduates have recognition of the need for, and an ability to engage in, life-long learning and working towards professional licensing.

**PLO 10** Graduates have knowledge of contemporary issues.

**PLO 11** Graduates have an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

**PLO 12** Graduates can explain key concepts and problem-solving processes used in business, public policy, and public admission.

#### Communication Studies, BA

**PLO 1.0** Foundations - Demonstrate an understanding of at least one major theory in the field of communication.

**PLO 2.1** Inquiry - Demonstrate an understanding of methods of communication research and analysis such as rhetorical, critical, interpretive, performative and social scientific approaches and their ethical implications.

**PLO 2.2** Inquiry - Develop and apply analytical skills and ethical practices for understanding, conducting, and evaluating communication research studies. Major Theories Students can explain, apply, and critique a major theory that has shaped a specific area of Communication Studies.

**PLO 3.1** Practice - Demonstrate the ability to communicate competently and in a theoretically informed manner in a variety of contexts.

**PLO 3.2** Practice - Demonstrate social responsibility, ethical awareness, and community engagement. Rationale Students can explain the rationale underlying practices and approaches in communication research and their ethical implications.

#### Communicative Disorders and Sciences, BA

**PLO 1** Students will demonstrate effective oral and written communication skills.

**PLO 2** Students will demonstrate effective problem solving and critical thinking skills.

**PLO 3** Students will demonstrate knowledge of research methods and application of evidence-based practice.

**PLO 4** Students will demonstrate knowledge of basic communication and communicative disorders and differences across the lifespan.

**PLO 5** Students will demonstrate knowledge of clinical management of communicative disorders and differences.

**PLO 6** Students will recognize the role of related professions and interprofessional collaborative models in service delivery.

**PLO 7** Students will demonstrate a knowledge of professionalism and ethical standards.

**PLO 8** Students will demonstrate an awareness of and appreciation for their role as future professionals in a diverse society.

#### Computer Engineering, BS

**PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** An ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

#### Computer Science, BS

**PLO 1** Apply computing and math knowledge an ability to apply knowledge of computing and mathematics to solve problems.

**PLO 2** Analyze a problem an ability to analyze a problem, and identify and define the computing requirements appropriate to its solution.

**PLO 3** Design, implement, evaluate system, process, component, or program An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs.

**PLO 4** Teamwork An ability to function effectively on teams to accomplish a common goal.

**PLO 5** Professional, ethical, legal, security, social issues An understanding of professional, ethical, legal, security and social issues and responsibilities.

**PLO 6** Communicate effectively An ability to communicate effectively with a range of audiences.

**PLO 7** Analyze local and global impact An ability to analyze the local and global impact of computing on individuals, organizations, and society.

**PLO 8** Continuing professional development Recognition of the need for and an ability to engage in continuing professional development.

**PLO 9** Current techniques, skills, tools for computing An ability to use current techniques, skills, and tools necessary for computing practice.

**PLO 10** Tradeoffs in design choices An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.

**PLO 11** Apply design and development principles An ability to apply design and development principles in the construction of software systems of varying complexity.

#### Creative Arts, BA

**PLO 1** Perform interdisciplinary analysis of various forms of creative arts, attending to connections and commonalities as well as differences, in both written and oral formats.

**PLO 2** Identify and articulate various and sometimes contested functions and purposes of the creative arts.

**PLO 3** Demonstrate the ability to develop and use practice-based methodologies in research projects.

**PLO 4** Identify, select, use and cite information sources appropriately.

**PLO 5** Create class projects that demonstrate innovative thinking.

**PLO 6** Collaborate effectively with other students in the completion of team projects.

## D

#### Dance, BA

**PLO 1** The ability to identify and work conceptually with the elements of dance.

**PLO 2** An understanding of the choreographic processes, aesthetic properties of style, and the ways these shapes and are shaped by artistic and cultural ideas and contexts.

**PLO 3** An acquaintance with a wide selection of dance repertory, the principal eras, genres, and cultural sources.

**PLO 4** The ability to develop and defend critical evaluations.

**PLO 5** Fundamental knowledge of the body and of kinesiology as applicable to work in dance.

**PLO 6** Ability in performing consistent with the goals and objectives of the specific liberal arts degree program being followed, and appropriate to the individuals' needs and interests.

**PLO 7** An understanding of procedures for realizing a variety of dance styles.

**PLO 8** Knowledge and/or skills in one or more areas of dance beyond basic course work and performance

appropriate to the individuals' needs and interests, and consistent with the goals and objectives of the specific liberal arts degree program being followed.

#### Dance, BFA

**PLO 1** Highest level of technical skill in at least one area of performance.

**PLO 2** Achieve highest possible level of conceptual understanding of the medium and its expressive possibilities.

**PLO 3** Technical proficiency standards.

**PLO 4** Have a fundamental knowledge of the body and kinesiology

**PLO 5** Students must develop basic knowledge and skills in dance pedagogy.

**PLO 6** Students must develop basic knowledge and skills in choreography and have opportunities to develop their choreographic potential in studies that include traditional and/or experimental approaches.

**PLO 7** Students must demonstrate their competence by developing a body of work for evaluation in the major area of study.

**PLO 8** Be able to place dance in historical, cultural, and stylistic contexts.

**PLO 9** Develop and understanding of the common elements and vocabulary and the interaction of these elements and to be able to employ this knowledge in analysis of dance.

**PLO 10** Students must have the ability to form and defend analysis and critiques of dance and to communicate dance ideas, concepts, and requirements to professionals and lay persons related to practice of the major field.

**PLO 11** Learn to analyze dance perceptively and to evaluate.

**PLO 12** Be able to form and defend individual critiques.

#### Design Studies, BA

**PLO 1** Utilize knowledge gained in classroom to develop discipline-based skills in materials and techniques.

**PLO 2** Demonstrate professional depth of knowledge within their field of study.

**PLO 3** Engage in global views and weigh design decisions within the parameters of ecological, socio-economic, and cultural contexts.

**PLO 4** Demonstrate all aspects of the design process to identify complex problems and generate solutions that optimize human experiences.

**PLO 5** Engage in multi-disciplinary collaborative work team structures.

**PLO 6** Demonstrate discipline-based design ideas verbally, visually and digitally.

## E

#### Earth Science, BA

**PLO 1** Develop the skill to read and accurately interpret topographic and geologic maps.

**PLO 2** Effectively communicate scientific ideas and results in writing.

**PLO 3** Use the fundamentals of chemistry, physics, and math to solve geologic problems.

**PLO 4** Classify and identify geological materials such as minerals, rocks, and fossils, and understand their relationships to each other and interacting earth systems.

**PLO 5** Visualize and comprehend geologic structures and processes.

**PLO 6** Understand how geologists measure deep time and reconstruct earth history.

#### Ecology and Evolution, BS

**PLO 1** Hypotheses and Experiments Students will demonstrate the ability to formulate hypotheses and design experiments to address a scientific question.

**PLO 2** Biology Content Students will demonstrate an understanding of the relevant content in their concentration.

**PLO 3** Laboratory or Field Skills Students will demonstrate laboratory or field skills relevant to their concentration.

**PLO 4** Scientific Writing Skills Students will demonstrate proficiency in scientific writing skills by effectively writing an advanced scientific paper.

**PLO 5** Oral Presentations Students will demonstrate proficiency in oral presentation skills by effectively presenting scientific research.

Economics, BA

**PLO 1** Students should be able to define, describe and illustrate microeconomic concepts, using verbal, written, graphical and mathematical expression, in three microeconomic "hallmark" areas: Incentives (the law of demand, law of supply, rational decision making on the margin), Opportunity Costs (sunk costs, production possibilities, gains from interpersonal & international trade, comparative advantage) and Supply and Demand (movement versus shift, welfare analysis, understanding the S&D model as a representation of individual choices in exchange,) and also be able to examine, assess and criticize policies, projects and other current events, using core microeconomic theory, through the Intermediate level.

**PLO 2** Students should be able to define, describe and illustrate macroeconomic concepts, using verbal, written, graphical and mathematical expression, in three macroeconomic "hallmark" areas: Comparative Advantage (specialization and the gains from trade; globalization), Macroeconomic Measures (real versus nominal calculations; components and concept of GDP; components and concept of unemployment figures; calculation of inflation), Macroeconomic Models (circular flow; monetary and fiscal policy; the market for loanable funds & interest rate determination; the demand and supply of money & price level determination) and also be able to examine, assess and criticize policies, projects and other current events, using core macroeconomic theory, through the Intermediate level.

**PLO 3** Students should be able to describe the contours of, and differences and similarities between, qualitative and quantitative economic research methodologies, including the case study, historical narrative, applied econometric, and policy analysis methods, and to produce an original economic study using an economics methodology.

**PLO 4** Student should be able to define, describe and illustrate intermediate theoretical concepts, using verbal, written, graphical and mathematical expression, important to one or more of these areas, to discuss one or more research methods common to a specialist area, and to produce an original economic study using an economics methodology from the specialist area.

**PLO 5** Students will be able to describe and explain conclusions, recommendations, and implications from theory and methods of micro and macro theory, and specialist areas of economics, using written, spoken and other forms of communication.

Economics, BS

**PLO 1** Students should be able to define, describe and illustrate microeconomic concepts, using verbal, written, graphical and mathematical expression, in three microeconomic "hallmark" areas: Incentives (the law of demand, law of supply, rational decision making on the margin), Opportunity Costs (sunk costs, production possibilities, gains from interpersonal & international trade, comparative advantage) and Supply and Demand (movement versus shift, welfare analysis, understanding the S&D model as a representation of individual choices in exchange,) and also be able to examine, assess and criticize policies, projects and other current events, using core microeconomic theory, through the Intermediate level.

**PLO 2** Students should be able to define, describe and illustrate macroeconomic concepts, using verbal, written, graphical and mathematical expression, in three macroeconomic "hallmark" areas: Comparative Advantage (specialization and the gains from trade; globalization), Macroeconomic Measures (real versus nominal calculations; components and concept of GDP; components and concept of unemployment figures; calculation of inflation), Macroeconomic Models (circular flow; monetary and fiscal policy; the market for loanable funds & interest rate determination; the demand and supply of money & price level determination) and also be able to examine, assess and criticize policies, projects and other current events, using core macroeconomic theory, through the Intermediate level.

**PLO 3** Students should be able to describe the contours of, and differences and similarities between, qualitative and quantitative economic research methodologies, including the case study, historical narrative, applied econometric, and policy analysis methods, and to produce an original economic study using an economics methodology.

**PLO 4** Student should be able to define, describe and illustrate intermediate theoretical concepts, using verbal, written, graphical and mathematical expression, important to one or more of these areas, to discuss one or more research methods common to a specialist area, and to produce an original economic study using an economics methodology from the specialist area.

**PLO 5** Students will be able to describe and explain conclusions, recommendations, and implications from theory and methods of micro and macro theory, and specialist areas of economics, using written, spoken and other forms of communication.

Electrical Engineering, BS

**PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** An ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

English, BA (Concentrations in General English, Creative Writing, Preparation for Teaching (Single Subject), and Professional and Technical Writing)

**PLO 1** Read closely - Read closely in a variety of forms, styles, structures, and modes, and articulate the value of close reading in the study of literature, creative writing, or rhetoric.

**PLO 2** Literary works, genres, periods - Show familiarity with major literary works, genres, periods, and critical approaches to British, American, and World Literature.

**PLO 3** Write clearly, effectively, creatively, appropriately - Write clearly, effectively, and creatively, and adjust writing style appropriately to the content, the context, and nature of the subject.

**PLO 4** Perform research, locate, evaluate, organize information - Develop and carry out research projects, and locate, evaluate, organize, and incorporate information effectively.

**PLO 5** Articulate relations among culture, history, texts- Articulate the relations among culture, history, and texts.

Environmental Studies, BA

**PLO 1** Students are able to write a logical analytical paper using good writing style and construction supported by appropriate research.

**PLO 2** Students are able to determine, apply and interpret appropriate basic statistical or other quantitative analyses to environmental data.

**PLO 3** Students will develop proficiency in the interdisciplinary sustainability principles that are the foundations of environmental studies; they will know the key environmental challenges facing the planet, know relevant interdisciplinary information about these challenges, and be able to develop/identify feasible solutions.

**PLO 4** Students are able to productively conduct group/team work to deliver professional quality presentations and reports and also engage in community service and democratic participation.

**PLO 5** Students demonstrate in-depth knowledge and skills in a non-science field.

Environmental Studies, BS (including a Preparation for Teaching Program)

**PLO 1** Students are able to write a logical analytical paper using good writing style and construction supported by appropriate research.

**PLO 2** Students are able to determine, apply and interpret appropriate basic statistical or other quantitative analyses to environmental data.

**PLO 3** Students will develop proficiency in the interdisciplinary sustainability principles that are the foundations of environmental studies; they will know the key environmental challenges facing the planet, know relevant interdisciplinary information about these challenges, and be able to develop/identify feasible solutions.



**PLO 4** Students are able to productively conduct group/team work to deliver professional quality presentations and reports and also engage in community service and democratic participation.

**PLO 5** Students demonstrate in-depth knowledge and skills in a science or technical field.

## F

Forensic Science, BS (Concentrations in Biology, Chemistry, and Digital Evidence)

**PLO 1** Apply the scientific method to draw logical conclusions about crime scenes.

**PLO 2** Demonstrate competence in the recognition, documentation, collection, and analysis of forensic evidence.

**PLO 3** Identify sources and causes of error in forensic science.

**PLO 4** Interpret evidence and communicate findings clearly in both written reports and oral testimony.

**PLO 5** Contextualize forensic science within the fields of criminal justice, human rights, and physical and mental health.

French, BA (Including a Preparation for Teaching Program)

**PLO 1** Demonstrate advanced (ACTFL) skills in writing French.

**PLO 2** Demonstrate advanced (ACTFL) skills in reading French.

**PLO 3** Demonstrate advanced (ACTFL) skills in speaking French.

**PLO 4** Demonstrate advanced (ACTFL) skills in understanding French.

**PLO 5** Use appropriate terminology in linguistic, cultural, or literary analysis.

**PLO 6** Analyze and compare a wide variety of texts drawing upon their cultural knowledge of France and the Francophone world.

**PLO 7** Demonstrate knowledge of major periods, genres, authors, movements of French and Francophone cultural history.

**PLO 8** Demonstrate advanced ability to connect with other disciplines and language communities. Demonstrate advanced translation skills.

**PLO 9** Demonstrate information processing competency, use of appropriate technologies and tools for research, analysis, communication, and presentation.

## G

General Engineering, BS

**PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** An ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Geography, BA

- PLO 1** Demonstrate understanding of and ability to analyze spatial relationships.
- PLO 2** Demonstrate understanding of, and ability to analyze and critique human and environment interactions.
- PLO 3** Define and use basic geography tools and techniques.
- PLO 4** Demonstrate ability to analyze and compare/contrast global regions.
- PLO 5** Demonstrate ability to read and understand research literature and engage in productive research activities.
- PLO 6** Demonstrate professional communication skills.

#### Geology, BS

- PLO 1** Develop the skill to read and accurately interpret topographic and geologic maps.
- PLO 2** Effectively communicate scientific ideas and results in writing.
- PLO 3** Use the fundamentals of chemistry, physics, and math to solve geologic problems.
- PLO 4** Classify and identify geological materials such as minerals, rocks, and fossils, and understand their relationships to each other and interacting earth systems.
- PLO 5** Visualize and comprehend geologic structures and processes.
- PLO 6** Understand how geologists measure deep time and reconstruct earth history.

#### Global Studies, BA

- PLO 1** Students will engage in interdisciplinary studies and demonstrate an understanding of complex global events and processes of globalization in relationship to culture, politics, gender studies, sustainability, and foreign language.
- PLO 2** Students will demonstrate the ability to write, speak, research, and critically analyze complex global events and processes of globalization.
- PLO 3** Students will analyze, synthesize, and interpret texts, images, and experiences, demonstrating quantitative literacy, innovation of thought and creation of theoretical or practical solutions to global problems.
- PLO 4** Students will demonstrate a critical understanding of the ethical implications of global citizenship, informed by global awareness and cross-cultural understanding.

#### Graphic Design, BFA

- PLO 1** Apply the principles of color, composition, hierarchy, typography as they relate in the various media-digital, print, motion, 3-D, etc.-that exist in design.
- PLO 2** Demonstrate the ability to create and develop original concepts, build prototypes, integrate feedback and carry projects through to the production process.
- PLO 3** Apply principles of visual communication as they relate to reaching audiences, the role of design in society, and the ability to work cooperatively.
- PLO 4** Identify key aspects of graphic design history, theory and criticism from a variety of perspectives, including prominent designers, historians and contemporary writers and thought-leaders.
- PLO 5** Show fluency in the breadth of disciplines that graphic design encompasses, with deep exploration into information architecture, user interface design, interactive design, motion graphics, iterative image-making, exhibition design and typeface design.
- PLO 6** Demonstrate understanding of the design process, design thinking and professional standards and practices, including real-project learning scenarios and a transition into preparing a portfolio to enter the working force.

## H

#### History, BA

- PLO 1** Describe and explain how peoples and societies evolved across time and space demonstrating the importance of context (social, political, economic, cultural, environmental, ideological, and technological).
- PLO 2** Illustrate the complexity of historical causality and describe past events from multiple perspectives.
- PLO 3** Analyze the credibility of historical sources and arguments, revising interpretations as new evidence warrants.
- PLO 4** Conceive and carry out historical research, constructing persuasive evidence-based arguments using primary and secondary sources according to recognized standards of the historical discipline.

Hospitality, Tourism and Event Management, BS

**PLO 1** To interpret the fundamental principles of essential hospitality and tourism business functions.

**PLO 2** To demonstrate professional behavior and competencies in customer service.

**PLO 3** To develop a range of leadership skills and abilities such as motivating others, leading changes, and resolving conflict.

**PLO 4** To communicate effectively in oral and written communication.

**PLO 5** To analyze and solve problems, using appropriate tools and technology.

**PLO 6** To recognize the challenges and opportunities of working effectively with people in a diverse environment.

Humanities, American Studies Concentration, BA

**PLO 1** Demonstrate the ability to frame questions and pursue answers to aesthetic, social, cultural and global problems using interdisciplinary methods.

**PLO 2** Demonstrate the ability to describe and compare the roles, impacts and ethical implications of ideas, texts, social movements, contemporary situations, and creations of the human imagination.

**PLO 3** Demonstrate skill in written and verbal communication, including argumentation.

**PLO 4** Demonstrate the ability to identify, select, use, and cite information sources appropriately.

**PLO 5** Explain how current events and contemporary issues are understood with knowledge of the historical and cultural background of a particular world area (e.g., America, East Asia, Europe, or the Middle East), including processes of cultural formation, historical development, and social change.

Humanities, Liberal Arts Concentration, BA

**PLO 1** Demonstrate the ability to frame questions and pursue answers to aesthetic, social, cultural and global problems using interdisciplinary methods.

**PLO 2** Demonstrate the ability to describe and compare the roles, impacts and ethical implications of ideas, texts, social movements, contemporary situations, and creations of the human imagination.

**PLO 3** Demonstrate skill in written and verbal communication, including argumentation.

**PLO 4** Demonstrate the ability to identify, select, use, and cite information sources appropriately.

Humanities, Religious Studies Concentration, BA

**PLO 1** Demonstrate the ability to frame questions and pursue answers to aesthetic, social, cultural and global problems using interdisciplinary methods.

**PLO 2** Demonstrate the ability to describe and compare the roles, impacts and ethical implications of ideas, texts, social movements, contemporary situations, and creations of the human imagination.

**PLO 3** Demonstrate skill in written and verbal communication, including argumentation.

**PLO 4** Demonstrate the ability to identify, select, use, and cite information sources appropriately.

**PLO 5** Demonstrate a high level of religious literacy, including the ability to articulate etic and emic perspectives for specific religions, and a functional understanding of at least five major world religious systems (e.g. Judaism, Christianity, Islam, Hinduism, Buddhism, Confucianism, Taoism, Sikhism, Jainism, a specific geographic set of indigenous religions [African, Australian, North American, South American, Pacific Islander, North Asian, pre-Christian European], Wicca, Afro-Caribbean religions).

**PLO 6** Function adroitly within the interdisciplinary nature of comparative religious studies. Describe how religion, as a phenomenon, can be analyzed historically, philosophically, psychologically, sociologically, geographically, and artistically, as well as theologically. Demonstrate ability to write and speak about religions in a scholarly, civil, and respectful manner, using the academic discourses that have evolved for this purpose. Foster civil discourse about religion by encountering and engaging community members, faculty, and students who hold diverse views within and about religious traditions.



Industrial and Systems Engineering, BS

**PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** An ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

#### Industrial Design, BS

**PLO 1** Demonstrate a functional knowledge of design aesthetics to create appropriate 2D and 3D artifacts, as well as have the ability to think visually and develop design concepts utilizing rapid 2D and 3D visualization tools and techniques.

**PLO 2** Articulate a functional understanding of manufactured products, including being able to explain how products work, what constitutes their structural integrity, and what materials and manufacturing processes are required to produce them.

**PLO 3** Apply their knowledge of end-user psychology, ergonomics, anthropometry, and user interaction to the design of manufactured products.

**PLO 4** Investigate, analyze, synthesize, and make design decisions based on an ecological understanding of the impact of a design, including the reconciliation of priorities and concerns of end users with those of business, society, and the environment.

**PLO 5** Employ a design process that generates products that are useful, usable, and desirable to specific segments of the human population, including an understanding of how designers define problems, researching contextual issues, determining design requirements, and conceptualizing and evaluating alternatives to test and refine solutions.

#### Industrial Technology, Computer Network System Management Concentration, BS

**PLO 1** Use a broad understanding of network and communications technologies to solve challenges in wireless networking and communications.

**PLO 2** Use current programming languages and methods to solve problems in business and industry.

**PLO 3** Solve network and electronic systems problems in analytical and creative ways.

**PLO 4** Apply analog and digital communication techniques to a variety of problems in industry.

**PLO 5** Use computer-aided design and simulation for the development of electronic systems, printed circuit boards, and integrated circuits.

**PLO 6** Develop and implement software systems for control of industrial processes in electronics and communications.

**PLO 7** Integrate the processes of instrumentation and automation in the electronics industry.

**PLO 8** Use skills and knowledge in the control of electronics and networking manufacturing processes, production scheduling and testing.

**PLO 9** Apply networking and telecommunications theory and management.

**PLO 10** Design and analyze electronic circuits and systems.

#### Industrial Technology, Manufacturing Systems Concentration, BS

**PLO 1** Demonstrate skills in the planning and design of manufacturing processes.

**PLO 2** Describe the product life cycle and how products are manufactured.

**PLO 3** Design and plan industrial facilities.

**PLO 4** Select and operate computer numerical controlled and other machines.

**PLO 5** Describe the uses, advantages, and disadvantages of current and evolving manufacturing techniques

including laser machining, electrical discharge machining, water jet and abrasive water jet machining, and rapid prototyping.

**PLO 6** Select, analysis and use polymers, composite materials, and materials in the design of manufactured products.

**PLO 7** Apply the theory of computer-integrated manufacturing (CIM), including the computer-aided design/computer-aided manufacturing (CAD/CAM) interface to industrial problems and settings.

**PLO 8** Use the principles of production scheduling and planning in an industrial environment.

**PLO 9** Apply knowledge of material properties and structural analysis to manufacturing product design.

**PLO 10** Use robots and mechatronics in a CIM environment.

**PLO 11** Demonstrate an understanding of materials management including Just-in-Time (JIT) and Materials Resource Planning (MRP).

**PLO 12** Integrate design, manufacturing, and materials into the design and development of new products.

**PLO 13** Apply the principles of Lean Manufacturing to manufacturing and soft systems. Analyze the appropriate use of marketing to both internal and external customers. Apply OSHA and NIOSH principles to facilities design and management.

#### Interior Design, BFA

**PLO 1** Understand concepts, principles, and theories of sustainability as they pertain to building methods, materials, systems, and occupants within the parameters of ecological, socio-economic, and cultural contexts.

**PLO 2** Express ideas clearly through visual media (ideation drawings and sketches), the production of presentation drawings across a range of appropriate media and to produce integrated contract documents including drawings, schedules, and specifications appropriate to project size and scope.

**PLO 3** Understand and apply laws, codes, standards, accessibility guidelines and industry-specific regulations that impact the design of interior spaces.

**PLO 4** Be informed by knowledge of human factors and theories of human behavior related to the built environment, including an understanding of the diverse social and behavioral norms that affect design decisions.

**PLO 5** Apply theories of human behavior in the built environment by selecting, interpreting, and applying appropriate anthropometric data when designing a space.

**PLO 6** Be able to work in a multi-disciplinary collaborative environment to identify and explore complex problems and generate creative solutions that optimize the human experience within the interior environment.

## J

#### Japanese, BA

**PLO 1** Demonstrate Intermediate-high (ACTFL) level of Japanese linguistic knowledge and skills in writing, reading, speaking and listening in three modes of communication (interpersonal, interpretive and presentation).

**PLO 2** Analyze and compare a wide variety of texts, human relationships, social values, products, practices and perspectives of Japanese society with those of their own culture, drawing upon their cultural knowledge of Japan.

**PLO 3** Demonstrate ability to evaluate situations appropriately and choose appropriate expressions and communication strategies to meet their intention in intercultural settings including Japan, such as business, study abroad, homestay etc.

**PLO 4** Demonstrate analytical competence of phonological, morphological, syntactic, semantic and pragmatic components of contemporary Japanese language.

**PLO 5** Demonstrate ability to appreciate and interpret Japanese literary texts, audiovisuals and arts and to recognize stylistic elements, social values and backgrounds in the literature, TV drama, films and arts.

**PLO 6** Demonstrate advanced translation skills of modern contemporary literature.

**PLO 7** Demonstrate ability to develop and carry out research projects in Japanese language.

#### Journalism, BS

**PLO 1** Demonstrate knowledge of the diversity of groups in a global society in relationship to communications.

**PLO 2** Demonstrate the ability to think critically, creatively and independently.

**PLO 3** Write correctly and clearly in forms and styles appropriate for the communications professions, audiences, and purposes they serve.

**PLO 4** Demonstrate the ability to use tools and technologies appropriate for the communications professions in which they work.

Justice Studies, BS (Concentrations in General Justice Studies and Criminology)

**PLO 1** Explain the major concepts, theories, and historical trends within studies of crime, law, and social justice at all levels, from local to global.

**PLO 2** Describe and apply ways to gather valid information and conduct research to answer questions about crime, law, and social justice issues.

**PLO 3** Understand and critically analyze individual, institutional, and societal responses to crime, law, and social justice issues.

**PLO 4** Employ interdisciplinary perspectives on systems of inequality and concepts of justice to propose grounded, informed, and sustainable solutions to social problems in communities and/or institutions.

**PLO 5** Articulate compelling, reasoned, and empirically-informed positions on issues of justice to diverse audiences. Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

## K

Kinesiology, BS (Including a Preparation for Teaching Program)

**PLO 1** Explain, identify, and/or demonstrate the theoretical and/or scientific principles that can be used to address issues or problems in the sub-disciplines in kinesiology.

**PLO 2** Effectively communicate in writing (clear, concise and coherent) on topics in kinesiology.

**PLO 3** Effectively communicate through an oral presentation (clear, concise and coherent) on topics in kinesiology.

**PLO 4** Utilize their experiences across a variety of health-related and skill-based activities to inform their scholarship and practice in the sub disciplines in kinesiology.

**PLO 5** Identify and analyze social justice and equity issues related to kinesiology for diverse populations.

## L

Liberal Studies, BA (Including Integrated Teacher Education, Integrated Teacher Education - Spanish Bilingual, and Preparation for Teaching Programs)

**PLO 1** Demonstrate the ability to frame questions and pursue answers to aesthetic, social, cultural and global problems using interdisciplinary methods.

**PLO 2** Demonstrate the ability to describe and compare the roles, impacts and ethical implications of ideas, texts, social movements, contemporary situations, and creations of the human imagination.

**PLO 3** Demonstrate skill in written and verbal communication, including argumentation.

**PLO 4** Demonstrate the ability to identify, select, use and cite information sources appropriately.

**PLO 5** Demonstrate foundational knowledge in subjects taught in K-8 schools.

**PLO 6** Demonstrate understanding of how to engage and support learning for all K-8 students by creating lesson plans that use a variety of instructional strategies, resources and technologies to meet students' diverse learning needs.

**PLO 7** Demonstrate understanding of how to create and maintain effective learning environments through reflection and through the development of lesson that promote student learning, reflect diversity and encourage constructive interactions among students.

**PLO 8** Demonstrate understanding of how to plan instruction and assess student learning by creating lesson plans that use formative and summative assessment data to plan, differentiate and modify instruction.

Linguistics, BA

**PLO 1A** Transcribe, using the International Phonetic Alphabet, and produce speech sounds of the world's languages. Apply concepts of acoustic theory in analyses of speech data.

**PLO 1B** Analyze linguistic sound patterns in terms of their function, their structure, and the pressures that influence their change over time.

**PLO 1C** Analyze words and their internal structure in terms of their meanings, their sound properties, and the pressures that influence their change over time.

**PLO 1D** Analyze sentence structure in any language in terms of grammatical relations and constituent structure, and recognize the typological diversity of syntactic phenomena.

**PLO 1E** Analyze the meaning of words and sentences, elaborate on the role of linguistic and pragmatic context in the interpretation of meaning, and understand the role of theories in the analysis of semantic data.

**PLO 1F** Identify phonological, morphological, syntactic and semantic changes in the history of a language, discuss the contribution of social factors to language variation and change, explain the genetic and typological classification of languages, and use the comparative method to reconstruct ancestors of related languages.

**PLO 2A** Analyze phonetic, phonological, morphological, syntactic, semantic, and historical linguistics data.

**PLO 2B** Critically evaluate competing approaches to the analysis of linguistic data.

**PLO 2C** Use library and electronic research sources effectively.

**PLO 2D** Use reading and writing skills effectively.

**PLO 2E** Demonstrate proficiency equivalent to one-year college level study in a language other than their native language.

**PLO 3A** Discuss issues in speech synthesis, speech recognition, natural language processing, and develop speech recognition, speech synthesis and natural language processing programs.

**PLO 3B** Evaluate theories of first and second language acquisition, and second language teaching.

**PLO 3C** Identify language-related social programs in areas such as education, the law, the workplace, etc., and discuss the feasibility of various empirically-based solutions.

## M

Marine Biology, BS

**PLO 1** Hypotheses and Experiments Students will demonstrate the ability to formulate hypotheses and design experiments to address a scientific question.

**PLO 2** Biology Content Students will demonstrate an understanding of the relevant content in their concentration.

**PLO 3** Laboratory or Field Skills Students will demonstrate laboratory or field skills relevant to their concentration.

**PLO 4** Scientific Writing Skills Students will demonstrate proficiency in scientific writing skills by effectively writing an advanced scientific paper.

**PLO 5** Oral Presentations Students will demonstrate proficiency in oral presentation skills by effectively presenting scientific research.

Materials Engineering, BS

**PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** Ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

#### Mathematics, BA (Including a Preparation for Teaching Program)

**PLO 1** The student will reason logically to conclusions, including the ability to use precise definitions and various forms of logical argument.

**PLO 2** The student will read mathematics with understanding and communicate mathematical ideas with clarity and coherence.

**PLO 3** The student will perform standard mathematical computations with accuracy.

**PLO 4** The student will use technology to solve mathematical problems.

#### Mechanical Engineering, BS

**PLO 1** an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

**PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

**PLO 3** An ability to communicate effectively with a range of audiences.

**PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

**PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

**PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

**PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

#### Meteorology, BS

**PLO 1** Be able to read and interpret various meteorological diagrams, and develop and present a short-to-medium-term forecast with considerable skill.

**PLO 2** Be able to explain meteorological phenomena at various scales in terms of basic physical and dynamic processes, including radiative forcing, thermodynamics, microphysics, and dynamics.

**PLO 3** Know the design and use of meteorological instruments, and techniques for collecting and interpreting the data.

**PLO 4** Be able to explain current climate in terms of basic physical and dynamical processes, and explain the mechanisms responsible for climate change. 5. Be able to explain ideas and results through written, statistical, graphical, oral and computer-based forms of communication.

**PLO 5** Be able to explain ideas and results through written, statistical, graphical, oral and computer-based forms of communication.

#### Meteorology, Climate Science Concentration, BS

**PLO 1** Be able to explain current climate in terms of basic physical and dynamic processes.

**PLO 2** Be able to explain the mechanisms responsible for climate change.

**PLO 3** Know and be able to practice the techniques used for collecting, analyzing, and interpreting various forms of climate data.

**PLO 4** Demonstrate an ability to synthesize concepts from a broad range of disciplines, and apply them to problems in climate science.

**PLO 5** Be able to explain ideas and results through written, statistical, graphical, oral and computer-based forms of communication



Music, BA

**PLO 1** Hear, identify, and work conceptually with the melodic, harmonic, and rhythmic elements of music, including sight-reading, keyboard proficiency, and analysis.

**PLO 2** Identify, discuss, and write about the history, traditions, practices, and cultures of the Western art-music tradition, along with related materials of non-Western music's.

**PLO 3** Competently perform repertory appropriate to a university music program, utilizing skills and knowledge gained from the previous two learning outcomes.

**PLO 4** Work proficiently with basic music technology, its applications, and its use in their area of specialization.

**PLO 5** Successfully complete a capstone experience appropriate to their area of specialization.

Music, BM (Concentrations in Composition, Jazz Studies, Music Education, and Performance)

**PLO 1** Hear, identify, and work conceptually with the melodic, harmonic, and rhythmic elements of music, including sight-reading, keyboard proficiency, and analysis.

**PLO 2** Identify, discuss, and write about the history, traditions, practices, and cultures of the Western art-music tradition, along with related materials of non-Western music's.

**PLO 3** Competently perform repertory appropriate to a university music program, utilizing skills and knowledge gained from the previous two learning outcomes.

**PLO 4** Work proficiently with basic music technology, its applications, and its use in their area of specialization.

**PLO 5** Successfully complete a capstone experience appropriate to their area of specialization.

**PLO 6** Perform standard repertoire competently and expressively, and provide musical leadership appropriate to a university music program as soloists, as conductors, and as members of major performing ensembles and smaller chamber ensembles.

**PLO 7** Identify and discuss the repertory in their major performance area; perform from a cross-section of that repertory through a successful capstone experience (a senior solo recital or senior recital of original compositions).

**PLO 8** (*For Music Education Concentration only*) Demonstrate basic performance skills as well as pedagogical and classroom methods appropriate for a music education major entering the field of public-school teaching.

## N

Nutritional Science, BS (Concentrations in Dietetics, Applied Nutrition and Food Sciences, and Food Management)

**PLO 1** To obtain a critical understanding and the ability to apply theoretical and scientific knowledge from the subdisciplines in nutrition.

**PLO 2** To effectively communicate the essential theories, scientific applications, and ethical considerations related to the discipline.

**PLO 3** To identify global, social, environmental, and/or cultural issues related to the discipline for diverse populations.

## O

Organizational Studies, BA

**PLO 1** Identify the variety of organizations humans have created to achieve their goals.

**PLO 2** Understand the relationships between organizational structure and process, and the social and natural environments in which they operate.

**PLO 3** Use quantitative and qualitative research methods to understand organizations and their environments.

**PLO 4** Identify the importance of understanding human diversity within organizations.

**PLO 5** Recognize the moral dimensions of human actions, and be able act ethically and effectively within organizations.

**PLO 6** Demonstrate skills in addressing real-world organizational problems.

# P

## Philosophy, BA

**PLO 1** Be able to identify, discuss and constructively engage with, in both written and oral fashion, core areas and methods of Philosophy, and major figures and ideas in various historical periods and in various traditions from around the world.

**PLO 2** Have the ability to understand texts and oral presentations and to identify and critique the arguments expressed in these texts.

**PLO 3** Have the ability successfully to collect and evaluate information and carry out research projects and successfully share the results in both written and oral form.

**PLO 4** Have an understanding of the demands of responsible citizenship and an understanding of how to make and defend ethical choices.

**PLO 5** Have an understanding of the ways in which culture, race, ethnicity, gender, economic class, sexual orientation, and national membership influence perceptions about reality, knowledge, and value.

## Physics, BA

**PLO 1** Students will be able to formulate specific research questions and design and/or interpret experiments that address these questions.

**PLO 2** Students will be able to demonstrate an understanding of a breadth of physics concepts by solving physics problems related to these concepts.

**PLO 3** Students will be able to demonstrate laboratory, modeling, computational and/or data analysis skills relevant to physics research.

**PLO 4** Students will be able to communicate scientific content and thinking effectively as evidenced by productive collaboration with peers, well-reasoned professionally formatted written papers and visual and oral presentations.

**PLO 5** Students will be able to demonstrate an understanding of how work in physics influences technology, society and culture.

## Physics, BS

**PLO 1** Students will be able to formulate specific research questions and design and/or interpret experiments that address these questions.

**PLO 2** Students will be able to demonstrate an understanding of a breadth of physics concepts by solving physics problems related to these concepts.

**PLO 3** Students will be able to demonstrate laboratory, modeling, computational and/ or data analysis skills relevant to physics research.

**PLO 4** Students will be able to communicate scientific content and thinking effectively as evidenced by productive collaboration with peers, well-reasoned professionally formatted written papers and visual and oral presentations.

**PLO 5** Students will be able to demonstrate an understanding of how work in physics influences technology, society and culture.

## Physics, Preparation for Teaching, BA

**PLO 1** Students know basic physics principles.

**PLO 2** Students can apply their knowledge to practical, theoretical and experimental problems.

**PLO 3** Students are prepared for careers in science, industry and education.

## Political Science, BA

**PLO 1** Breadth Students should possess a broad knowledge of the theory and methods of the various branches of the discipline.

**PLO 2** Application and Disciplinary Methods Students should be able to formulate research questions, engage in systematic literature searches using primary and secondary sources, evaluate research studies, and critically analyze

and interpret influential political texts. Students should be able to apply these techniques to identify, understand, and analyze domestic and international political issues and organizations.

**PLO 3** Communication Skills Students should master basic competencies in oral and written communication skills and be able to apply these skills in the context of political science. This means communicating effectively about politics and/or public administration, public policy, and law.

**PLO 4** Citizenship Students should acquire an understanding of the role of the citizen in local, state, national, and global contexts and appreciate the importance of lifelong participation in political processes.

#### Psychology, BA

**PLO 1** Students will be able to demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

**PLO 2** Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.

**PLO 3** Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.

**PLO 4** Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

**PLO 5** Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

#### Psychology, BS

**PLO 1** Students will be able to demonstrate familiarity with the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology.

**PLO 2A** Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.

**PLO 2B** Students will be able to design, implement, and communicate advanced research methods in two or more focused domains within psychology, including research design, data analysis, and interpretations within each domain.

**PLO 3** Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.

**PLO 4** Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.

**PLO 5** Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

#### Public Health, BS (Concentrations in Community Health Education and Population Data Science)

**PLO 1** Social Justice - Apply principles of social justice, through the lens of cultural humility, to achieve and sustain health equity.

**PLO 2** Factors of Health - Explain the intersectionality of environmental, social, economic, behavioral, biological and political factors influencing human health and identify opportunities for change.

**PLO 3** Ethics - Interpret and apply ethical principles to the practice of public health.

**PLO 4** Communication - Demonstrate an ability to deliver public health messages in written, oral, and media-based formats to both public and professional audiences.

**PLO 5** Research - Use public health methods and tools to collect and analyze population health data.

**PLO 6** Research - Interpret the basic concepts of human health and disease and research grounded in the history, philosophy, and practice of public health.

**PLO 7** Policy - Analyze the effects of multiple levels of policy and health systems on population and individual health outcomes and employ strategies to participate in the policy process.

**PLO 8** Community - Use public health processes and practices, including working collaboratively with diverse individuals and communities, to create relevant interventions or investigations that engage and build community capacity, promote health, and reduce health inequities and disparities.

#### Public Relations, BS

**PLO 1** Demonstrate knowledge of the diversity of groups in a global society in relationship to communications.

**PLO 2** Demonstrate the ability to think critically, creatively and independently.

**PLO 3** Write correctly and clearly in forms and styles appropriate for the communications professions, audiences, and purposes they serve.

**PLO 4** Demonstrate the ability to use tools and technologies appropriate for the communications professions in which they work.

## R

### Radio-Television-Film, BA

**PLO 1** Become media literate: Know the history, processes and current structure of the electronic media, its ethical parameters, and the social and political effects of electronic and mass communication (radio, television, film, new media) on an audience.

**PLO 2** Tell meaningful stories through production of good narratives in radio, television, and film. Appreciate the art and aesthetics of media.

**PLO 3** Communicate information and entertainment to diverse cultures using radio, television and film. Be sensitive to the ways and processes of, and the attitudes held by races, religions, political and social groups that are not their own.

**PLO 4** Understand how to plan, produce, write and direct radio, television and film/cinema projects. Achieve professional-level skills of production. Select and operate video/television, film, and audio/radio technologies.

**PLO 5** Determine what type of information is needed for a research question, problem, or issue, and be able to retrieve, evaluate and effectively use such information to produce scholarship and production in radio, television, film and new media.

### Recreation, BS (Concentrations in General Recreation, Recreation Management, and Recreation Therapy)

**PLO 1** Graduates will demonstrate summative knowledge and skills across the core curriculum integrating the standards of the Recreation profession within the context of a rapidly changing world.

**PLO 2** Graduates will plan, implement, and evaluate a recreation program or special events that are inclusive, culturally grounded and sensitive to diverse populations.

**PLO 3** Graduates will demonstrate budgeting and financial skills in the framework of sustainability and ethical stewardship.

**PLO 4** Graduates will demonstrate professional behavior and competencies in the framework of ethics, personal, and social responsibility.

**PLO 5** Graduates will demonstrate proficient and professional written communication keeping in mind the global communities they will be working in.

## S

### Social Science, BA (Including a Preparation for Teaching (Single Subject) Program)

**PLO 1** Students will be able to think sociologically about the relationship between social structure, interaction, identities, and inequalities.

**PLO 2** Students will be able to identify and explain major sociological theories and apply them to everyday life.

**PLO 3** Students will be proficient in qualitative and quantitative research design, data collection and data analysis.

**PLO 4** Students will be proficient in oral and written communication skills appropriate to the discipline.

**PLO 5** Students will be able to practice sociology as educated and civically engaged persons.

### Social Work, BA

- PLO 1** Demonstrate Ethical and Professional Behavior.
- PLO 2** Engage Diversity and Difference in Practice.
- PLO 3** Advance Human Rights and Social, Economic, and Environmental Justice.
- PLO 4** Engage In Practice-informed Research and Research-informed Practice.
- PLO 5** Engage in Policy Practice.
- PLO 6** Engage with Individuals, Families, Groups, Organizations, and Communities.
- PLO 7** Assess Individuals, Families, Groups, Organizations, and Communities.
- PLO 8** Intervene with Individuals, Families, Groups, Organizations, and Communities.
- PLO 9** Evaluate Practice with Individuals, Families, Groups, Organizations, and Communities.

Sociology, BA (Concentrations in General Sociology, Community Change, Race and Ethnic Studies, Social Interaction, and Women, Gender, and Sexuality Studies)

- PLO 1** Students will be able to think sociologically about the relationship between social structure, interaction, identities, and inequalities.
- PLO 2** Students will be able to identify and explain major sociological theories and apply them to everyday life.
- PLO 3** Students will be proficient in qualitative and quantitative research design, data collection and data analysis.
- PLO 4** Students will be proficient in oral and written communication skills appropriate to the discipline.
- PLO 5** Students will be able to practice sociology as educated and civically engaged persons.

Software Engineering, BS

- PLO 1** An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- PLO 2** An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- PLO 3** An ability to communicate effectively with a range of audiences.
- PLO 4** An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- PLO 5** An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- PLO 6** An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- PLO 7** An ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Spanish, BA

- PLO 1** Ability to effectively use grammatical structures in Spanish and to express oneself orally and in writing in different sociolinguistic milieus including formal and academic presentations.
- PLO 2** Ability to appreciate literary texts of the Spanish-speaking world (Spain, Spanish America and the Hispanic U.S.) and to recognize stylistic elements in the literature.
- PLO 3** Ability to develop and carry out research projects in Spanish, including term papers and bibliographical research.
- PLO 4** Ability to analyze and develop texts other than literary: for example, informal and formal correspondence, (applications for school or jobs, a résumé, brochures, etc.) and to understand the use of appropriate academic and technical terminology.
- PLO 5** Ability to produce, analyze and rationalize the sounds of Spanish (phonology) as compared and contrasted with the sounds of English.
- PLO 6** Ability to analyze morphological, syntactic and semantic components of Spanish.

Special Major, BA

- PLO 1** Ability to analyze an issue or problem, integrating at least two disciplinary perspectives.

Special Major, BS

**PLO 1** Ability to analyze an issue or problem, integrating at least two disciplinary perspectives.

## T

Theatre Arts, BA

**PLO 1** Demonstrate a literacy of language of stage and/or screen; know how to analyze a script, understand the historical and contemporary structure of a script, and the social and political effects of a performance on an audience.

**PLO 2** Demonstrate an ability to tell meaningful stories through performance; correlate performance to production; Demonstrate acting skills and development of a character.

**PLO 3** Communicate information and entertainment to diverse cultures using stage and/or screen; demonstrate sensitivity to the processes of and the attitudes held by races, religions, political and social groups that are not their own.

**PLO 4** Demonstrate how to plan, perform, produce, write and direct for stage and screen; demonstrate professional-level skills of production; design for and operate contemporary technologies.

**PLO 5** Demonstrate what type of information is needed for a research question, problem, or issue, and be able to retrieve, evaluate and effectively use such information to produce quality scholarship.

# Graduate Program Learning Outcomes

A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

## A

### Accountancy, MS

- PLO 1** Apply accounting, auditing, and tax principles within the context of a complex business environment.
- PLO 2** Evaluate information technology and internal control processes and their role in financial and managerial reporting.
- PLO 3** Demonstrate conceptual and analytical skills and their real world applications.
- PLO 4** Develop effective oral and written communication skills in a context of conducting research.
- PLO 5** Examine ethical implications of accounting practice.

### Aerospace Engineering, MS

- PLO 1** Model and Solve Problems - Ability to use graduate level mathematics to model and solve aerospace engineering problems.
- PLO 2** Analysis and Design - Ability to apply aerospace engineering science (aerodynamics, propulsion, flight mechanics, stability & control, aerospace structures & materials, etc.) to perform an in-depth analysis and / or design of an aerospace engineering system taking into consideration economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints.
- PLO 3** Computational and Experimental Tools - Ability to use modern tools (computational or experimental).
- PLO 4** Literature Review - Ability to perform a literature search related to a given problem, cite the references in appropriate ways, and demonstrate an understanding of the cited literature.
- PLO 5** Technical Writing - Graduate level technical writing ability, including correct language and terminology, appropriate visuals, and summarizing key ideas.

### Applied Anthropology, MA

- PLO 1** To understand a range of anthropological research methods and be able to conduct research relevant to problem solving in various settings and for different clients/partners.
- PLO 2** To know basic models of applying anthropology in different settings and have the skills to be able to function as practitioners of several of them.
- PLO 3** To be knowledgeable about (1) the discipline of anthropology in general and how it contributes to understanding and improving contemporary society, and (2) a particular field of anthropology in greater depth.
- PLO 4** To be able to function effectively in at least one content area or domain of application.
- PLO 5** To understand personal, political and ethical issues inherent in research and application.
- PLO 6** To develop professionally as practitioners with skills in contracting, project management, and budgeting, as well as the ability to communicate about project goals and findings and the discipline of anthropology to diverse audiences.
- PLO 7** To be knowledgeable about the region as a social and cultural system with complex state national and global interconnections.

### Archives and Records Administration, MARA

- PLO 1** Articulate the ethics, values, and foundational principles of archives and records management professionals and appreciate the important role record keepers play in social memory and organizational accountability.
- PLO 2** Recognize the social, cultural, and economic dimensions of records, recordkeeping, and records use.
- PLO 3** Understand the evolution of information recordkeeping systems in response to technological change.
- PLO 4** Have expertise in the basic concepts and principles used to identify, evaluate, select, organize, maintain, and

provide access to records of current and enduring value.

**PLO 5** Understand the system of standards and structures endorsed and utilized by the recordkeeping professions, particularly in the areas of electronic records and digital assets management.

**PLO 6** Apply fundamental management theories and principles to the administration of records and recordkeeping organizations.

**PLO 7** Know the legal requirements and ethical principles involved in records management and the role the recordkeeper plays in institutional compliance and risk management.

**PLO 8** Be conversant with current information technologies and best practices relating to records preservation and security.

**PLO 9** Understand research design and research methods and possess the analytical, written, and oral communication skills to synthesize and disseminate research findings.

**PLO 10** Identify ways in which archivists and records managers can contribute to the cultural, economic, educational, and social well being of our global communities.

#### Art, Art History and Visual Culture Concentration, MA

**PLO 1** Art History Knowledge Demonstrate knowledge (visual recognition and identification) of significant artworks and of the canon of historical periods customary in Western and Non-Western traditions.

**PLO 2** Art History Skills Demonstrate increasing skills of visual analysis appropriate to describing and explaining artworks from a variety of historical contexts.

**PLO 3** Writing and Research Demonstrate the writing and research skills necessary for the accurate and complete investigation and communication of art historical information.

**PLO 4** Methodology Demonstrate a theoretical, historiographic, and professional understanding of the discipline of Art History and apply this understanding to explaining and solving research problems.

#### Art, MFA (Concentrations in Digital Media Art, Photography, Pictorial Art, and Spatial Art)

**PLO 1** Will be able to analyze and research visual and conceptual problems and both apply and explain their sophisticated use of the elements and principles of art to solve those problems. Our graduates will be artists capable of studio practice and exhibition at the professional level.

**PLO 2** Will be able to demonstrate increased technical capabilities and skills relevant to their areas of expertise and be able to explain and evaluate success/failure in individual and group critiques. We expect our graduates to be lifelong problem-identifiers and problem-solvers, always on the lookout for new and better skills. Prior to participation in a final thesis exhibition, MFA candidates will already have demonstrated their skills in portfolio reviews, frequent faculty and peer critiques, evaluations by thesis committee members, and in solo and group exhibitions.

**PLO 3** Will demonstrate their commitment to valuing art's role in offering cultural critique and addressing issues of social responsibility in a global society. As creative professionals, our graduates will, we hope, assume leadership roles in engaging with social and cultural change--as teachers, as critics, as spokespersons for important issues which cannot yet be imagined. As graduate students, our MFA candidates will demonstrate their understanding of the values of contemporary art in their visual and written responses to class assignments in area and interdisciplinary seminars and in the successful articulation of their ideas in exhibitions and artist statements.

**PLO 4** Will apply their knowledge of visual history and theory to their creative endeavors and to their professional practice. They will be able to speak and write clearly about art and global culture and demonstrate their understanding of the contemporary and global art world. They will demonstrate their ability to place their own work within the broader context of historical and contemporary art and theory. Our graduates will commit to continued personal engagement with intellectual issues in contemporary art and culture.

**PLO 5** Will not only be capable of studio practice and exhibition at the professional level but also will have demonstrated the ability to organize and present technical and intellectual information and to lecture/teach on a variety of specialized topics in digital media art. Those students who seek teaching positions while still in graduate school will be mentored in classroom assistant capacity for two semesters, carefully screened for a teaching pool, trained as teachers, and carefully evaluated when hired as Teaching Associates. We expect our graduates to be experienced and professional teachers.

#### Artificial Intelligence, MS



**PLO 1** Identify and apply fundamental concepts, algorithms, and methodologies to formulate, analyze, design, and evaluate artificial intelligence and machine learning systems.

**PLO 2** Tackle complex machine learning and artificial intelligence problems using contemporary principles, algorithms, technologies, methodologies, and tools.

**PLO 3** Lead and participate in a team to develop AI and machine learning applications.

**PLO 4** Recognize the ethical, economic and environmental implications of their work, as appropriate.

**PLO 5** Sustain a process of life-long learning in engineering or other professional areas.

**PLO 6** Communicate effectively and persuasively with a variety of audiences.

#### Audiology, AUD

**PLO 1** Specialized Knowledge - Students will recall, apply, and synthesize their knowledge of the hearing and balance mechanisms, including normal processes, disorders, and treatments.

**PLO 1A** Students will demonstrate knowledge and skill competencies outlined by the Council on Academic Accreditation (CAA) and the Accreditation Commission for Audiology Education (ACAE).

**PLO 2** Social Responsibilities - Students will summarize and describe the contexts in which they may practice audiology and advise patients, with attention to local and culturally sensitive models of health care.

**PLO 2A** Students will demonstrate the ability to act ethically, intentionally, and conscientiously regarding issues related to inclusion and diversity.

**PLO 3** Intellectual Skills - Students will correctly interpret theories, assumptions, and protocols appropriate to audiology practice (i.e., diagnosis and treatment) within quantitative and qualitative methodologies. They will also demonstrate the ability to think critically and creatively, effectively communicate, gather and process information thoroughly and ethically, write in a scientific voice, and engage in inter-professional activities.

**PLO 4** Integrative Knowledge and Skills - Students will design, complete, and present a scholarly research project that will reflect the depth of contemporary audiology knowledge and contribute to knowledge in hearing science or to improvements in audiology practice, policy, or client outcomes.

**PLO 5** Applied Knowledge and Skills - Students will apply classroom theories and prior clinical experiences to new clinical settings, age groups, disorders, technologies, and devices, with increasing speed, effectiveness, and independence.

## B

#### Bioinformatics, MS

**PLO 1** Students will demonstrate effective scientific written communication skills.

**PLO 2** Students will demonstrate effective scientific oral communication skills.

**PLO 3** Students will demonstrate the ability to independently answer complex biological questions using computational methods.

**PLO 4** Students will demonstrate the ability to develop a research plan using information gained through critical analysis of primary literature

#### Biological Sciences, MA (concentrations in General Biology, Ecology and Evolution, Molecular Biology and Microbiology, and Physiology)

**PLO 1** Students will develop effective written communication skills, as assessed by a research proposal at baseline, followed by a written exam.

**PLO 2** Students will develop effective oral communication skills, as assessed by a research proposal at baseline, followed by an oral exam.

**PLO 3** Students will demonstrate the ability to independently answer questions regarding their specific field of study, as assessed by a research proposal at baseline, followed by an oral exam.

**PLO 4** Students will demonstrate the ability to develop, present, defend and critically analyze hypotheses and

conclusions using information gained through searches of primary literature, as assessed by a research proposal at baseline, followed by an oral exam.

Biomedical Engineering, MS (Concentrations in General Biomedical Engineering and Biomedical Devices)

**PLO 1** Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.

**PLO 2** Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.

**PLO 3** Can deliver effective presentations of engineering results in written and oral formats.

**PLO 4** Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.

**PLO 5** Are effective leaders, capable of working in diverse environments.

**PLO 6** Are able to apply their engineering education to a variety of career paths.

Biotechnology, MBT

**PLO 1** The students will apply the five ACRL (Assoc. of College Research Librarians) standards.

**PLO 2** The students will demonstrate advanced understanding of topics at the interface of biology and business central to the biotechnology industry.

**PLO 3** The students will demonstrate their ability to efficiently work in teams.

**PLO 4** The students will demonstrate their ability to communicate effectively, verbally and written, to convey scientific and commercial ideas.

Business Administration, MBA (Including Early Career and Professional Programs)

**PLO 1** Develop a strategic level understanding of the key functions of business including marketing, accounting, finance, and organizational behavior.

**PLO 2** Understand decision making methods including decision trees, expected value, risk and uncertainty, and the value of information.

**PLO 3A** Understand the major issues facing multinational corporations in the management of their international operations-particularly those of an intercultural nature.

**PLO 3B** Explain the ethical, legal, and social consequences that ensue when ethics and the law are disregarded in favor of other objectives.

**PLO 4** Comprehend the factors that contribute to effective leadership of teams and understanding of the skills and behaviors necessary to be an effective team member.

**PLO 5A** Demonstrate an ability to understand and adapt to global market changes.

**PLO 5B** Demonstrate an ability to integrate knowledge and develop innovative solutions to remain competitive given industry dynamics (strategic integration).

**PLO 6A** Demonstrate an ability to plan, prepare, organize, and present effective oral presentations.

**PLO 6B** Demonstrate the principles and processes of effective written communications.

## C

Chemical Engineering, MS

**PLO 1** Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.

**PLO 2** Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.

**PLO 3** Can deliver effective presentations of engineering results in written and oral formats.

**PLO 4** Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.

**PLO 5** Are effective leaders, capable of working in diverse environments.

**PLO 6** Are able to apply their engineering education to a variety of career paths.

#### Chemistry, MA

**PLO 1** To demonstrate an advanced understanding of selected topics in chemistry.

**PLO 2** To demonstrate information literacy skills for acquiring knowledge of chemistry, both as a student and as a life-long learner.

**PLO 3** To demonstrate an understanding of experimentation, observation and data analysis, and their application to defined questions in chemistry.

**PLO 4** To demonstrate a familiarity with available instrumentation for conducting specific scientific research.

**PLO 5** To communicate effectively, verbally and written, for the purposes of conveying chemical information to both professional scientists and to the public.

#### Chemistry, MS

**PLO 1** To demonstrate an advanced understanding of selected topics in chemistry.

**PLO 2** To demonstrate information literacy skills for acquiring knowledge of chemistry, both as a student and as a life-long learner.

**PLO 3** To demonstrate an understanding of experimentation, observation and data analysis, and their application to defined questions in chemistry.

**PLO 4** To demonstrate a familiarity with available instrumentation for conducting specific scientific research.

**PLO 5** To communicate effectively, verbally and written, for the purposes of conveying chemical information to both professional scientists and to the public.

#### Chicana and Chicano Studies, MA

**PLO 1** Identify and analyze the major issues, questions, and debates driving theory and research in Chicana/o Studies through written and oral discourse, particularly the central role of race and ethnicity and its intersectional relationship to other socially constructed categories, such as gender, class/SES, and normative heterosexuality, and its historically evolving role in shaping individual and group identities, opportunities, and outcomes in US institutions.

**PLO 2** Analyze major theories, paradigms, and methods used to study Chicana/o and Latina/o communities historically and today, critically evaluate scholarship in the discipline, and conduct an ethically-based research, creative, or community-based project in Chicana/o Studies.

**PLO 3** Effectively present and write insights related to PLOs 1 & 2 in chosen area of emphasis through capstone project that demonstrates the significance of this work and is adequate for effective instruction at the college level.

#### Child and Adolescent Development, MA

**PLO 1** Articulate an advanced understanding of the complexity of the four domains of development (cognitive, emotional, social, and physical) and characterize the impact of the interrelations among domains on child and adolescent development.

**PLO 2** Analyze the significance of context on child and adolescent growth and evaluate how different contextual perspectives contribute to both dominant assumptions and alternative viewpoints in our field.

**PLO 3** Apply research, theory and problem-solving skills to evaluate best practices in social policy, education, intervention, and practical situations relevant to child and adolescent development.

**PLO 4** Categorize, investigate, and critically analyze different sources of information with respect to credibility and validity and determine the appropriate contexts to use each type of source.

**PLO 5** Analyze existing questions as well as formulate new questions that are relevant to our field and describe and apply the appropriate methodologies for seeking answers to these questions.

**PLO 6** Evaluate different styles of, and engage in, audience-appropriate forms of communication that lead to a shared understanding of developmental issues through negotiation and translation across multiple modes of communication.

**PLO 7** Delineate different methods of advocacy, elaborate on key ethical issues, and articulate how differing ethical perspectives influence their decision-making as advocates in our field.

Civil Engineering, MS

- PLO 1** Apply advanced concepts, theory and analysis for problem solving.
- PLO 2** Synthesize and integrate necessary engineering concepts into engineering solution process.
- PLO 3** Apply modern tools for computations, simulations, analysis and design.
- PLO 4** Communicate effectively.

Communication Studies, MA

- PLO 1** Conceptual Foundations Students will be able to identify, explain and critique the major paradigms and theories that have shaped the field of communication, including their historical development and current trends.
- PLO 2** Conceptual Foundations Students will be able to articulate the ethical and social responsibilities in communicating with others in different social contexts (i.e. interpersonal, organizational, intercultural, mediated, and public).
- PLO 3** Inquiry and Research Students will be able to interpret and critique research methods used in published communication research studies.
- PLO 4** Inquiry and Research Students will be able to design and conduct scholarly research using one or more method of inquiry.
- PLO 5** Professional Practice Students will be able to articulate in-depth understanding of conceptual foundations and research methods through advanced scholarly writing and oral communication.
- PLO 6** Professional Practice Students will be able to design, facilitate, and evaluate applied communication activities (i.e. presentations, workshops, forums, trainings, group discussions, etc.) in professional contexts utilizing conceptual foundations and research methods.

Computer Engineering, MS

- PLO 1** Be able to demonstrate an understanding of advanced knowledge of the practice of computer engineering, from vision to analysis, design, validation, and deployment.
- PLO 2** Be able to tackle complex engineering problems and tasks using contemporary engineering principles, methodologies and tools.
- PLO 3** Be able to demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science, and business.
- PLO 4** Be aware of ethical, economic, and environmental implications of their work, as appropriate.
- PLO 5** Be able to advance successfully in the engineering profession and sustain a process of life-long learning in engineering or other professional areas.
- PLO 6** Be able to communicate effectively in both oral and written forms.

Computer Science, MS

- PLO 1** Breadth of knowledge in computer science with course work in at least three of the subject areas Foundations, Architecture, Systems Software, Software Engineering, Specialty.
- PLO 2** Depth of knowledge in an advanced topic in computer science, including the ability to carry out original work that builds upon the existing body of knowledge in the field.
- PLO 3** Ability to communicate effectively both orally and in writing Computer Science topics to researchers, practitioners, and the public.

Counseling and Guidance, MA

- PLO 1** Design culturally sustaining prevention and intervention counseling programs within educational environments.
- PLO 2** Model ethical and inclusive leadership skills that promote equity, social justice, and student success.
- PLO 3** Apply effective and inclusive assessment practices within their work with school and community stakeholders.
- PLO 4** Create social, cultural, and educational interventions that support students' academic advancement.
- PLO 5** Select and apply relevant research methods to conduct program evaluations, supported by effective technological applications.

Creative Writing, MFA

**PLO 1** Students will demonstrate a high level of ability to write and complete a publishable, full-length work of literature in a primary genre concentration (fiction, creative nonfiction, poetry, or scriptwriting).

**PLO 2** Students will demonstrate a high level of proficiency to write works of literature in a secondary genre concentration (fiction, creative nonfiction, poetry, or scriptwriting).

**PLO 3** Students will demonstrate an appropriate level of knowledge of literary history, literary theory, and craft and theory of creative writing.

**PLO 4** Students will demonstrate critical and analytical skills in the evaluation and interpretation of literary texts.

**PLO 5** Students will demonstrate a command of written academic English, including the abilities to: a) organize and present material in a cogent fashion; b) formulate and defend original arguments; c) employ effectively the language of their discipline; d) write under time constraints.

#### Criminology, Global Criminology Concentration, MS

**PLO 1** Describe ways to create social change through a critical understanding of the local and global dimensions of crime.

**PLO 2** Articulate and evaluate scholarly-grounded perspectives on issues of crime and justice, including ways that criminology explains crime and reactions to crime, through academic, professional and social media.

**PLO 3** Explain theories, assumptions, foundational knowledge, analytical and interpretive protocols, tools, and technologies within the field of criminology at a level demonstrating preparation for advanced professional responsibilities, or pursuing a PhD in criminology-related areas.

**PLO 4** Demonstrate skills in each step of an investigative, creative, or practical project (e.g., brainstorming, planning, formulating hypotheses or complex questions, designing, creating, completing, and communicating) that helps advance understanding of a criminological or related issue.

**PLO 5** Employ global perspectives on criminology and concepts of justice to support research-informed solutions to contemporary social problems.

## D

#### Data Analytics, MS

**PLO 1** Integrate multidisciplinary knowledge to engage in practical data analytics projects, from analyzing requirements to managing data, building models, presenting results, and assessing societal impacts.

**PLO 2** Identify, use, and evaluate current and emerging multidisciplinary data analytics technologies and tools.

**PLO 3** Apply effective oral and written communication skills necessary to professional work including collaboration and presentation to multidisciplinary audiences.

**PLO 4** Perform independent research in applying data analytics to specific domains.

**PLO 5** Utilize quantitative skills from a rich foundation of essential knowledge to solve complex, dynamic, and practical data analytics problems in various professional domains.

**PLO 6** Work productively as individuals and in teamwork to perform data analytics tasks as part of a multidisciplinary team.

**PLO 7** Identify ways in which data analytics professionals can contribute to the cultural, economic, educational and social well-being in diverse and multicultural local, national and global contexts.

#### Data Science, MS

**PLO 1** Apply computer science knowledge and tools to assist in performing data science tasks.

**PLO 2** Summarize and evaluate statistical and machine learning concepts, models and techniques.

**PLO 3** Integrate multidisciplinary knowledge and software to tackle challenging, complex data science tasks.

**PLO 4** Communicate effectively, both orally and in writing, data science concepts, algorithms, and results to a broad audience.

**PLO 5** Identify ways in which data scientists can contribute to the cultural and economic well-beings of diverse societies in local, national and global scopes.

# E

## Economics, MA (Concentrations in General Economics and Applied Economics)

**PLO 1** Students should be able to define, describe and illustrate a wide array of microeconomic concepts, using verbal, written, graphical and mathematical expression, and also be able to examine, assess and criticize policies, projects and other current events, using core microeconomic theory, through the advanced level.

**PLO 2** Students should be able to define, describe and illustrate a wide array of macroeconomic concepts, using verbal, written, graphical and mathematical expression, and also be able to examine, assess and criticize policies, projects and other current events, using core macroeconomic theory, through the Advanced level.

**PLO 3** Students should be able to describe the contours of, and differences and similarities between, qualitative and quantitative economic research methodologies, including the case study, historical narrative, applied econometric, and policy analysis methods, and to produce an original economic study using an economics methodology.

**PLO 4** Students should be able to define, describe and illustrate advanced theoretical concepts, using verbal, written, graphical and mathematical expression, important to one or more of these areas, to discuss one or more research methods common to a specialist area, and to produce an original economic study using an economics methodology from the specialist area.

**PLO 5** Students will be able to describe and explain conclusions, recommendations, and implications from theory and methods of micro and macro theory, and specialist areas of economics, using written, spoken and other forms of communication.

## Education, Curriculum and Instruction (LACES) Concentration, MA

**PLO 1** Understand foundational and theoretical literature related to education in a specific content area (e.g., literacy, mathematics, science, social studies, etc.).

**PLO 2** Understand how to critically examine and evaluate methods of instruction including those used with struggling K- 12 learners and non-native speakers of English.

**PLO 3** Use on-going assessment data to teach students from diverse linguistic and cultural backgrounds.

**PLO 4** Discuss and critique different perspectives of curriculum and explore how these perspectives relate to K-12 classrooms and schooling.

**PLO 5** Discuss and identify the important aspects of history, language, and culture undergirding assumptions, values, and beliefs of competing perspectives in education.

**PLO 6** Review and critique theoretical and research literature in one's field of interest.

**PLO 7** Design and implement a study to address a question in one's field of interest that supports a defensible conclusion and considers relevant implications.

## Education, Curriculum and Instruction with Multiple Subject Credential Concentration, MA

**PLO 1** Understand foundational and theoretical literature related to education in a specific content area (e.g., literacy, mathematics, science, social studies, etc.).

**PLO 2** Understand how to critically examine and evaluate methods of instruction including those used with struggling K- 12 learners and non-native speakers of English.

**PLO 3** Use on-going assessment data to teach students from diverse linguistic and cultural backgrounds.

**PLO 4** Discuss and critique different perspectives of curriculum and explore how these perspectives relate to K-12 classrooms and schooling.

**PLO 5** Discuss and identify the important aspects of history, language, and culture undergirding assumptions, values, and beliefs of competing perspectives in education.

**PLO 6** Review and critique theoretical and research literature in one's field of interest.

**PLO 7** Design and implement a study to address a question in one's field of interest that supports a defensible conclusion and considers relevant implications.

## Education, Special Education Concentration, MA

**PL0 1** Assess and identify the educational needs and strengths of students with disabilities from diverse socioeconomic, cultural and linguistic backgrounds.

**PL0 2** Critically evaluate pedagogy, curricula and instructional materials grounded in quality indicators of evidence-based practices for students with disabilities.

**PL0 3** Plan, design, implement, and monitor linguistically and culturally appropriate instruction that meets the unique needs of students with disabilities.

**PL0 4** Apply knowledge of the purpose, characteristics, and appropriate use of different types of assessments used for special education eligibility, placement, and service selection.

**PL0 5** Utilize research-based knowledge and theoretical, conceptual and evidence-based practices related to individuals with disabilities to improve services and instruction in the field.

#### Education, Speech Pathology Concentration, MA

**PL0 1** Graduates will demonstrate foundational knowledge of speech-language, hearing, and swallowing disorders.

**PL0 2** Graduates will demonstrate clinical competence in assessment, differential diagnosis, and intervention in working with clients from diverse backgrounds.

**PL0 3** Graduates will be able to provide collaborative, inter-professional family centered services to clients.

**PL0 4** Graduates will integrate evidence-based practices to guide and inform clinical decisions and service delivery.

**PL0 5** Graduates will demonstrate professionalism, ethical actions, and advocacy for persons with speech-language, hearing, and swallowing disorders.

**PL0 6** Graduates will demonstrate skills in oral and written or other forms of communication sufficient for entry into professional practice of speech-language pathology.

#### Educational Leadership, Concentration in Emancipatory School Leadership, MA

**PL0 1** Build organizational cultures that reflect the diversity of experience and knowledge within school communities.

**PL0 2** Identify approaches to educational leadership that include the cultural wealth present in communities that schools serve.

**PL0 3** Design professional development that challenges bias and inequity in school settings.

**PL0 4** Create culturally sustaining approaches to instructional leadership.

**PL0 5** Implement policies and practices that reflect emancipatory school leadership principles.

#### Educational Leadership, EdD

##### Change Agents

**PL0 1** Knowledge of research allows them to interpret findings, make judicious applications of research, and advise others in policy positions.

**PL0 2** Able to undertake first-hand investigation of local problems using applied research methods to make meaningful, interpretable, valid, reliable, and authentic results.

**PL0 3** Able to select applied research that addresses significant questions and locate it within the general framework of scholarly literature.

**PL0 4** Use the results of research and deep understanding of organizational structures, cultures, networks, to foster positive reform efforts within their organizations.

##### Critical Agents

**PL0 1** Thinking is probabilistic, and recognizes the indeterminacy of educational and social contexts.

**PL0 2** Thinking is marked by hypothetical reasoning and so open to falsification on the basis of new data and/or experiences.

**PL0 3** Exhibit appreciation for evidence in decision-making, that is drawn from multiple sources via sound means of collection, and tested against scholarly literature and the realities of changing circumstances.

##### Experts Ed Leadership & Policy

- PLO 1** Demonstrate awareness and understanding of major frameworks for administration and education policy.
- PLO 2** Demonstrate understanding of learner centered principles.
- PLO 3** Knowledgeable of the political advocacy process and policies, practices, and partnerships in which education is embedded.
- PLO 4** Skilled in management, planning, and change processes.
- PLO 5** Demonstrate awareness of methods to enhance learning.
- PLO 6** Demonstrate understanding of the role of conflict and importance of ethics in administration and decision making.

Informed by Research and Scholarship

- PLO 1** Able to read and critique popular literature and ideas on best practices based on research and scholarly literature.
- PLO 2** Have a sense on the strengths and limits of research and scholarly literature, and the basis of validity, reliability, credibility, and interpretability.
- PLO 3** Will foster and encourage best practices within organizations based on research and scholarly literature.
- PLO 4** Can critique proposals for research and/or program implementation.

Self-Aware, Ethical, Reflective

- PLO 1** Systematically engage, compare, and critique professional experience is in classroom and other learning environments.
- PLO 2** Seek contexts and means for professional life-long learning and connections with educational research and scholarly literature.
- PLO 3** Understand and support the importance of trust and the ethical expectations of the education profession and strive to make their professional practice serve the needs of students, family, and community.

Value Equity and Diversity

- PLO 1** Understand how their personal narrative shapes their views about the literature, organizations, and groups who understand how to create collaborative environments that welcome and serve diverse members, including cultural/linguistic diversity, gender, special needs, and age-span differences.
- PLO 2** Appreciate how social, cultural, political, and historical forces have influenced educational leadership and education policy locally and globally, with understanding of how student experiences in schools and educational outcomes of historically underserved populations have occurred.
- PLO 3** Work to ensure that the potential of education to elevate the lives of children and families becomes a reality.
- PLO 4** Shape learning communities at their sites that are human and responsive to all students and open to the larger community.

Electrical Engineering, MS

- PLO 1** Graduates will be able to base analysis, problem solving and design on core advanced EE theory.
- PLO 2** Graduates will be able to develop deeper understanding of an area of concentration in electrical engineering.
- PLO 3** Graduates will be able to apply modern tools for research, computation, simulations, analysis, and design.
- PLO 4** Graduates will be able to demonstrate leadership skills in the workplace, to function professionally in a globally competitive world, and to communicate engineering results effectively.

Engineering, MS

- PLO 1** Work individually or collaboratively to plan and develop deliverables to meet project specifications and requirements.
- PLO 2** Apply advanced theory, engineering practice and analytical methods to solve engineering problems.
- PLO 3** Create written documents and deliver oral presentations for a range of audiences.
- PLO 4** Appraise ethical, social, economic, and environmental implications of engineering practice in local and global contexts.



### Engineering Management, MS

**PLO 1** Students will have a graduate level proficiency in applying engineering management knowledge in engineering management decision making.

**PLO 2** Students will have a graduate level proficiency in identifying, formulating, analyzing and solving managerial decision-making problems.

**PLO 3** Students will have a graduate level proficiency in effectively interpreting, communicating and implementing managerial solutions of technical and non-technical problems.

**PLO 4** Students will be able to recognize the need for and to engage in life-long learning.

**PLO 5** Students will be able to understand professional and ethical responsibility.

**PLO 6** Students will be able to understand different types of leadership in different types of organizational structures.

**PLO 7** Students will have a graduate level proficiency in using techniques and skills in constructing lean solutions to organizational technical problems.

**PLO 8** Students will have a graduate level proficiency in constructing economical, environmentally friendly and socially responsible managerial decisions.

### Engineering, Electronic Materials and Devices Concentration, MS

**PLO 1** Work individually or collaboratively to plan and develop deliverables to meet project specifications and requirements.

**PLO 2** Apply advanced theory, engineering practice and analytical methods to solve engineering problems.

**PLO 3** Create written documents and deliver oral presentations for a range of audiences.

**PLO 4** Appraise ethical, social, economic, and environmental implications of engineering practice in local and global contexts.

### English, MA

**PLO 1** Students will demonstrate an appropriate level of expertise in literary history, literary theory, and rhetoric.

**PLO 2** Students will demonstrate high-level proficiency in literary research and in the synthesis of research.

**PLO 3** Students will demonstrate critical and analytical skills in the interpretation and evaluation of literary texts.

**PLO 4** Students will demonstrate a command of written academic English, including the abilities to a) organize and present material in a cogent fashion, b) formulate and defend original arguments, c) employ effectively the language of their discipline and d) write under time constraints.

### Environmental Studies, MS

**PLO 1** Able to thoroughly review literature and research in a specific area of environmental studies and able to formulate original research questions based on critical analysis of aforementioned review.

**PLO 2** Able to develop appropriate and feasible methods for original research project.

**PLO 3** Possess thorough knowledge of the history of environmental thought.

**PLO 4** Able to carry out original research plan and write a high-quality scholarly thesis or professional report.

**PLO 5** Able to present original research results in a public oral defense.

## G

### Geography, MA

**PLO 1** Demonstrate the ability to critically evaluate and interpret published research on the theoretical foundations of geographical information science.

**PLO 2** Demonstrate the ability to explain contemporary issues in geographic information science in the context of current theory.

**PLO 3** Demonstrate the ability to define a research problem and design and execute a research program.

**PLO 4** Demonstrate the ability to evaluate and interpret research results in the context of current theory.

**PLO 5** Demonstrate the ability to communicate research results in written, graphic, and verbal form.

**PLO 6** Demonstrate understanding of how geographic information science and technology may be applied to a variety of problems.

Geology, MS

**PLO 1** Formulate scientifically sound and logistically reasonable plans for solving geologic problems.

**PLO 2** Apply the appropriate techniques to acquire and interpret data to arrive at scientifically sound conclusions.

**PLO 3** Demonstrate scientific writing of acceptable quality.

**PLO 4** Demonstrate the ability to present results of scientific research in oral format.

## H

History, MA (Concentrations in General History and History Education)

**PLO 1** Identify, summarize, and synthesize historical arguments about how peoples and societies evolved across time and space.

**PLO 2** Interpret, evaluate, compare, and critique historiographical arguments.

**PLO 3** Construct persuasive evidence-based historical arguments using original research including primary sources.

Human Factors/Ergonomics, MS

**PLO 1** Have an ability to apply knowledge of the sciences of human factors and workplace ergonomics.

**PLO 2** Have an ability to design and conduct experiments, as well as to analyze and interpret data.

**PLO 3** Have an ability to design a system, component, or process to meet accepted human factors and workplace ergonomics standards within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.

**PLO 4** Have an ability to function on multi-disciplinary teams.

**PLO 5** Have an ability to identify, formulate and solve human factors and workplace ergonomics problems.

**PLO 6** Understand professional and ethical responsibility.

**PLO 7** Have an ability to communicate effectively.

**PLO 8** Have the broad education necessary to understand the impact of human factors and workplace ergonomics solutions in a global, economic, environmental, and societal context.

**PLO 9** Have a recognition of the need for, and an ability to engage in, life-long learning.

**PLO 10** Have the knowledge of contemporary issues.

**PLO 11** Have an ability to use the techniques, skills, and modern human factors and workplace ergonomics tools necessary for industrial and systems engineering practice.

## I

Industrial and Systems Engineering, MS

**PLO 1** Student will be able to function (use and apply discipline knowledge) effectively and provide leadership (interpret, analyze and implement solutions to problems/challenges) within an organization.

**PLO 2** Student will be able to form, facilitate, lead, coordinate and participate in teams.

**PLO 3** Student will be able to understand organizational processes and behaviors.

**PLO 4** Student will have a graduate level knowledge of methodological and computational skills with which able to operate (apply) effectively.

**PLO 5** Student will have a graduate level proficiency in collecting, analyzing, and interpreting data.

**PLO 6** Student will a graduate level proficiency in approaching unstructured problems and synthesizing and designing solutions for this problem.

**PLO 7** Student will have a graduate level proficiency in evaluating the impact of these solutions in the broader context of the organization and society.

**PLO 8** Student will have a graduate level proficiency in effectively presenting and selling(communicating) solutions in the form of written, oral and electronic media.

**PLO 9** Student will be able to accomplish life-long growth (life-long learners) within the field of profession of ISE.

#### Informatics, MS

**PLO 1** Apply technology informatics skills to solve specific industry data and information management problems, with a focus on usability and designing for users.

**PLO 2** Evaluate, manage, and develop electronic records programs and applications in a specific organizational setting.

**PLO 3** Demonstrate strong understanding of security and ethics issues related to informatics, user interface, and inter-professional application of informatics in specific fields by designing and implementing appropriate information assurance and ethics and privacy solutions.

**PLO 4** Identify user needs, ideate informatics products and services, prototype new concepts, and evaluate a prototype's usability.

**PLO 5** Work collaboratively in teams and use project management practices effectively to solve user-centric information and data problems.

**PLO 6** Conduct informatics analysis and visualization applied to different real-world fields, such as health science and sports.

## J

#### Justice Studies, MS

**PLO 1** Evaluate the relationships between social justice and criminal justice across different societies and historical periods.

**PLO 2** Demonstrate knowledge and skills needed to fulfill professional responsibilities or to pursue further postgraduate education in justice-related fields.

**PLO 3** Synthesize knowledge of scholarly approaches, theoretical perspectives, empirical findings, and historical trends within the subject areas of criminal justice and social justice.

**PLO 4** Design, implement, and evaluate research projects in the fields of criminal and social justice, including data collection, analysis, and interpretation.

**PLO 5** Apply multidisciplinary notions and principles of justice when formulating responses to social problems in communities and/or justice-related institutions.

## K

#### Kinesiology, MA (Concentrations in General Kinesiology, Exercise Physiology, Sport Management, and Sport Studies)

**PLO 1** Demonstrate the ability to conduct and critique research using theoretical and applied knowledge.

**PLO 2** Interpret and apply research findings to a variety of disciplines within Kinesiology.

**PLO 3** Effectively communicate essential theories, scientific applications, and ethical considerations in each student's Kinesiology program concentration.

**PLO 4** Interpret and apply research findings through acquired skills in order to become agents of change to address issues in Kinesiology through the application of knowledge and research.

## L

#### Library and Information Science, MLIS

- PLO 1** Demonstrate awareness of the ethics, values, and foundational principles of one of the information professions, and discuss the importance of those principles within that profession.
- PLO 2** Describe and compare different organizational settings in which information professionals' practice.
- PLO 3** Articulate the importance of designing programs and services supportive of diversity, inclusion, and equity for clientele and employees.
- PLO 4** Apply the fundamental principles of planning, management, marketing, and advocacy.
- PLO 5** Design, query, and evaluate information retrieval systems.
- PLO 6** Use the basic concepts and principles related to the selection, evaluation, organization, and preservation of physical and digital information items.
- PLO 7** Demonstrate understanding of basic principles and standards involved in organizing information such as classification and controlled vocabulary systems, cataloging systems, metadata schemas or other systems for making information accessible to a particular clientele.
- PLO 8** Demonstrate proficiency in identifying, using, and evaluating current and emerging information and communication technologies.
- PLO 9** Describe the fundamental concepts of information-seeking behaviors and how they should be considered when connecting individuals or groups with accurate, relevant and appropriate information.
- PLO 10** Design collaborative or individual learning experiences based on learning principles and theories.
- PLO 11** Demonstrate understanding of quantitative and qualitative research methods, the ability to design a research project, and the ability to evaluate and synthesize research literature.
- PLO 12** Demonstrate professional leadership and communication skills.
- PLO 13** Evaluate programs and services using measurable criteria.
- PLO 14** Understand global perspectives on effective information practices that are supportive of cultural, economic, educational, or social well-being.

#### Linguistics, MA

- PLO 1A** Transcribe, using the International Phonetic Alphabet, and produce speech sounds of the world's languages. Apply concepts of acoustic theory in analyses of speech data.
- PLO 1B** Analyze linguistic sound patterns in terms of their function, their structure, and the pressures that influence their change over time.
- PLO 1C** Analyze sentence structure of typologically diverse languages using current formalism and explain how syntactic and semantic structures interface.
- PLO 1D** Analyze the meaning of linguistic expressions, elaborate on the role of linguistic, pragmatic, and cultural context in the interpretation of meaning, and understand the role of theories in the analysis of semantic data.
- PLO 1E** Show an understanding of current linguistic theories; compare and evaluate different theoretical approaches.
  
- PLO 2A** Extract patterns from complex data sets, motivate categorization procedures, and apply learned analytical principles over such patterns.
- PLO 2B** Carry out independent empirical, experimental or theoretical research involving formulating a research project, presenting a literature review, using appropriate methodology, collecting data pertinent to the project, and interpreting the data.
- PLO 2C** Use library and electronic research sources effectively.
- PLO 2D** Use reading and writing and oral skills effectively.
- PLO 2E** Demonstrate proficiency equivalent to a two-year of an Indo-European or a one-year of a non- Indo-European college level study in a language other than their native language.
  
- PLO 3A** Discuss issues in speech synthesis, speech recognition, natural language processing, and develop speech recognition, speech synthesis and natural language processing programs.
- PLO 3B** Evaluate theories of first and second language acquisition, and second language teaching.
- PLO 3C** Apply linguistic knowledge to address societal issues related to language variation and diversity, and intercultural communication.
- PLO 3D** Recognize the relation between language and cognition and evaluate theories of their interaction.
- PLO 3E** Identify phonological, morphological, syntactic and semantic changes in the history of a language, discuss the contribution of social factors to language variation and change, explain the genetic and typological classification of languages, and use the comparative method to reconstruct ancestors of related languages.

**PLO 4** Instill in students an appreciation for the diversity and dynamic nature of human languages and cultures in the U.S. and the world.

## M

### Marine Science, MS

**PLO 1A** Demonstrate an understanding of fundamental concepts in a particular category of oceanography and marine science.

**PLO 1B** Be able to synthesize and integrate across all of these fields, yet achieve a depth of understanding in the student's individual specialty or field of study.

**PLO 2** Demonstrate the ability to critically analyze scientific research, whether the student's own research, or that performed by others.

**PLO 3** Pose relevant scientific hypotheses or questions that may then serve to guide thesis research.

**PLO 4** Demonstrate proficiency in the design and implementation of experiments or data collection methodologies to address specific hypotheses/questions.

**PLO 5** Master the skills and tools of data collection and analysis (including analytical and statistical techniques as appropriate) specific to the student's scientific field of study.

**PLO 6** Demonstrate the ability to place one's own research within the larger context of relevant field of scientific study and to clearly identify the implications of this research for that field.

**PLO 7** Demonstrate proficiency in oral and written communication by being able to present research clearly and concisely. This includes thoughtful and thorough oral and written presentation of their thesis and their responses to questions.

### Mass Communications, MS

**PLO 1** Demonstrate knowledge of the diversity of groups in a global society in relationship to communications.

**PLO 2** Demonstrate the ability to think critically, creatively and independently.

**PLO 3** Write correctly and clearly in forms and styles appropriate for the communications professions, audiences, and purposes they serve.

**PLO 4** Demonstrate the ability to use tools and technologies appropriate for the communications professions in which they work.

### Materials Engineering, MS

**PLO 1** Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.

**PLO 2** Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.

**PLO 3** Can deliver effective presentations of engineering results in written and oral formats.

**PLO 4** Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.

**PLO 5** Are effective leaders, capable of working in diverse environments.

**PLO 6** Are able to apply their engineering education to a variety of career paths.

### Mathematics, MA

**PLO 1** The student will be able to demonstrate a general knowledge of mathematics consistent with the graduate level sequences.

**PLO 2** The student will be able to evaluate and synthesize research articles in their subfield of mathematics.

**PLO 3** The student will be able to communicate both orally and in writing in their sub-field of mathematics.

### Mathematics, MS

**PLO 1** The student will communicate mathematical ideas effectively.

**PLO 2** The student will use computation to solve complex mathematical problems.

**PLO 3** The student will use mathematical modeling on real world problems.

#### Mechanical Engineering, MS

**PLO 1** A strong foundation beyond the undergraduate level in their chosen focus area as well as in mathematics, basic science and engineering fundamentals, to successfully compete for technical engineering positions in the local, national and global engineering market, advance in their current position or pursue doctoral studies.

**PLO 2** Professional and lifelong learning skills to be able to apply and extend theory to solve practical contemporary engineering problems.

**PLO 3** The expertise necessary to design mechanical engineering systems with possible specialization in areas such as energy systems, electronics cooling, electronics packaging & reliability, finite element analysis & CAD, mechatronics & MEMS, product design, robotics, automation & manufacturing.

**PLO 4** Strong verbal and written communication skills, including the ability to read, write and comprehend technical documents.

**PLO 5** Ability to think and work independently to perform design and in-depth analysis in solving open-ended mechanical engineering problems.

#### Medical Product Development Management, MS

**PLO 1** Conduct an independent research project and communicate the results in written and oral form in acceptable professional formats. (Effective oral and written communication, information literacy).

**PLO 2** Adhere to and practice standards for ethical and responsible conduct of clinical research based on institutional mandates, regulations, guidelines and law. (Social responsibility and ethical conduct).

**PLO 3** Identify principles of research design and analyze results of clinical and scientific research studies (Analytic and critical thinking).

**PLO 4** Demonstrate leadership, teamwork, and decision-making skills. Integration of cumulative skills and interdisciplinary knowledge demonstrated in a capstone project (Process planning and problem solving).

#### Meteorology, MS

**PLO 1** Be able to conduct an independent research project, and communicate the results in written and oral form in acceptable professional formats.

**PLO 2** Be able to explain meteorological phenomena in terms of advanced physical and dynamic concepts.

**PLO 3** Understand and be able to apply advanced numerical methods to solve atmospheric and climate science problems.

#### Music, MM

**PLO 1** Perform, compose, conduct, or research at a professionally competent level, to be assessed in the final recital or project.

**PLO 2** Have an increased breadth of knowledge and skills beyond the undergraduate level in the foundational areas of music theory and history and in other areas related to their music concentration, assessed with final projects in 201, 202, 203 and the WCE for music theory and history.

**PLO 3** Identify and use standard digital and paper research tools in music and produce a comprehensive bibliography that shows their ability to utilize standard scholarly tools relevant to their concentration area according to standards set in a research and bibliographic rubric, to be assessed in final projects for 200 and WCE.

**PLO 4** Produce an independent creative or scholarly product that demonstrates technical proficiency in their concentration area and effective artistic and intellectual judgments, assessed in final projects for 203, 201, 200, 202, WCE, and in-class participation.

#### Music Education, MA

**PLO 1** Perform, compose, conduct, or research at a professionally competent level, to be assessed in the final recital or project.

**PLO 2** Have an increased breadth of knowledge and skills beyond the undergraduate level in the foundational areas of music theory and history and in other areas related to their music concentration.

**PLO 3** Identify and use standard digital and paper research tools in music and produce a comprehensive bibliography that shows their ability to utilize standard scholarly tools relevant to their concentration area according to standards set in a research and bibliographic rubric.

**PLO 4** Produce an independent creative or scholarly product that demonstrates technical proficiency in their concentration area and effective artistic and intellectual judgments.

## N

### Nursing, MS (Concentration in Family Nurse Practitioner)

**PLO 1** Apply critical thinking and ethical decision-making including the use of the nursing and research processes.

**PLO 2** Provide theory and research-based culturally competent, safe therapeutic nursing interventions for clients in advanced nursing practice.

**PLO 3** Employ advanced interpersonal skills in professional relationships with clients, families/caregivers, and multidisciplinary health care team members.

**PLO 4** Support health promotion and disease prevention activities in developing and monitoring holistic plans of care for well and at-risk clients, considering access, quality and cost.

**PLO 5** Demonstrate the collaborative and leadership skills required in advanced nursing practice within a multidisciplinary and multicultural (community) health care context.

**PLO 6** Plan, implement, and evaluate advanced nursing practice that promotes and preserves health and healthy lifestyles of individual clients and aggregates.

**PLO 7** Plan, implement, and evaluate advanced therapeutic nursing practice in a rapidly changing, multicultural health care environment.

**PLO 8** Implement care management, including but not limited to case management, resource management, advocacy, and outcome evaluation.

**PLO 9** Employ information technology in advanced nursing practice to evaluate and improve health care delivery and outcomes.

**PLO 10** Actualize the advanced nursing practice role by incorporating professional standards, ethical guidelines, legal mandates, and professional activities.

### Nursing Practice, DNP

#### Advanced Nursing Practice

**PLO 1** Conduct a comprehensive and systematic assessment of health and illness parameters in complex situations, incorporating diverse and culturally sensitive approaches.

**PLO 2** Design, implement, and evaluate therapeutic interventions based on nursing science and other sciences.

**PLO 3** Develop and sustain therapeutic relationships and partnerships with patients (individual, family or group) and other professionals to facilitate optimal care and patient outcomes.

**PLO 4** Demonstrate advanced levels of clinical judgment, systems thinking, and accountability in designing, delivering, and evaluating evidence-based care to improve patient outcomes.

**PLO 5** Guide, mentor, and support other nurses to achieve excellence in nursing practice.

**PLO 6** Educate and guide individuals and groups through complex health and situational transitions.

**PLO 7** Use conceptual and analytical skills in evaluating the links practice, organizational, population, fiscal, & policy issues.

#### Clinical Prevention & Population Health

**PLO 1** Analyze epidemiological, biostatistical, environmental, and other appropriate scientific data related to individual, aggregate, and population health.

**PLO 2** Synthesize concepts, including psychosocial dimensions and cultural diversity, related to clinical prevention

and population health in developing, implementing, and evaluating interventions to address health promotion/disease prevention efforts, improve health status/access patterns, and/or address gaps in care of individuals, aggregates, or populations.

**PLO 3** Evaluate care delivery models and/or strategies using concepts related to community, environmental and occupational health, and cultural and socioeconomic dimensions of health.

#### Clinical Scholarship

**PLO 1** Use analytic methods to critically appraise existing literature and other evidence to determine and implement the best evidence for practice.

**PLO 2** Design and implement processes to evaluate outcomes of practice, practice patterns, and systems of care within a practice setting, health care organization, or community against national benchmarks to determine variances in practice outcomes and population trends.

**PLO 3** Design, direct, and evaluate quality improvement methodologies to promote safe, timely, effective, efficient, equitable, and patient-centered care.

**PLO 4** Apply relevant findings to develop practice guidelines and improve practice and the practice environment.

**PLO 5.1** Use information technology and research methods appropriately to collect appropriate and accurate data to generate evidence for nursing practice.

**PLO 5.2** Use information technology and research methods appropriately to inform and guide the design of databases that generate meaningful evidence for nursing practice.

**PLO 5.3** Use information technology and research methods appropriately to analyze data from practice.

**PLO 5.4** Use information technology and research methods appropriately to design evidence-based interventions.

**PLO 5.5** Use information technology and research methods appropriately to predict and analyze outcomes.

**PLO 5.6** Use information technology and research methods appropriately to examine patterns of behavior and outcomes.

**PLO 5.7** Use information technology and research methods appropriately to identify gaps in evidence for practice.

**PLO 6** Function as a practice specialist/consultant in collaborative knowledge-generating research.

**PLO 7** Disseminate findings from evidence-based practice and research to improve healthcare outcomes.

#### Healthcare Policy

**PLO 1** Critically analyze health policy proposals, health policies, and related issues from the perspective of consumers, nursing, other health professions, and other stakeholders in policy and public forums.

**PLO 2** Demonstrate leadership in the development and implementation of institutional, local, state, federal, and/or international health policy.

**PLO 3** Influence policy makers through active participation on committees, boards, or task forces at the institutional, local, state, regional, national, and/or international levels to improve health care delivery and outcomes.

**PLO 4** Educate others, including policy makers at all levels, regarding nursing, health policy, and patient care outcomes.

**PLO 5** Advocate for the nursing profession within the policy and healthcare communities.

**PLO 6** Develop, evaluate, and provide leadership for health care policy that shapes health care financing, regulation, and delivery.

**PLO 7** Advocate for social justice, equity, and ethical policies within all healthcare arenas.

#### Interprofessional Collaboration

**PLO 1** Employ effective communication and collaborative skills in the development and implementation of practice models, peer review, practice guidelines, health policy, standards of care, and/or other scholarly products.

**PLO 2** Lead interprofessional teams in the analysis of complex practice and organizational issues.

**PLO 3** Employ consultative and leadership skills with intraprofessional and interprofessional teams to create change in health care and complex healthcare delivery systems.

#### Organizational & Systems Leadership



**PLO 1** Develop and evaluate care delivery approaches that meet current and future needs of patient populations based on scientific findings in nursing and other clinical sciences, as well as organizational, political, and economic sciences.

**PLO 2.1** Use advanced communication skills/processes to lead quality improvement and patient safety initiatives in health care.

**PLO 2.2** Employ principles of business, finance, economics, and health policy to develop and implement effective plans for practice-level and/or system-wide practice initiatives that will improve the quality of care delivery.

**PLO 2.3** Develop and/or monitor budgets for practice initiatives.

**PLO 2.4** Analyze the cost-effectiveness of practice initiatives accounting for risk and improvement of health care outcomes.

**PLO 2.5** Demonstrate sensitivity to diverse organizational cultures and populations, including patients and providers.

**PLO 3** Develop and/or evaluate effective strategies for managing the ethical dilemmas inherent in patient care, the health care organization, and research.

#### Patient Care Technology

**PLO 1** Use analytic methods to critically appraise existing literature and other evidence to determine and implement the best evidence for practice.

**PLO 2** Analyze and communicate critical elements necessary to the selection, use and evaluation of health care information systems and patient care technology.

**PLO 3** Demonstrate the conceptual ability and technical skills to develop and execute an evaluation plan involving data extraction from practice information systems and databases.

**PLO 4** Provide leadership in the evaluation and resolution of ethical and legal issues within healthcare systems relating to the use of information, information technology, communication networks, and patient care technology.

**PLO 5** Evaluate consumer health information sources for accuracy, timeliness, and appropriateness.

#### Scientific Underpinnings

**PLO 1** Integrate nursing science with knowledge from ethics, the biophysical, psychosocial, analytical, and organizational sciences as the basis for the highest level of nursing practice.

**PLO 2.1** Use science-based theories and concepts to determine the nature and significance of health and health care delivery phenomena.

**PLO 2.2** Use science-based theories and concepts to describe the actions and advanced strategies to enhance, alleviate.

**PLO 2.3** Use science-based theories and concepts to ameliorate health and health care delivery phenomena as appropriate.

**PLO 2.4** Use science-based theories and concepts to evaluate outcomes.

**PLO 3** Develop and evaluate new practice approaches based on nursing theories and theories from other disciplines.

#### Nutritional Science, MS

**PLO 1** To demonstrate advanced competency in professional writing and oral communication of the essential theories, scientific applications, and/or ethical considerations related to the profession.

**PLO 2** To identify and articulate social and cultural issues related to nutrition/packaging for various populations.

**PLO 3** To analyze and critique published research, and design and conduct research studies using the scientific method.

## O

#### Occupational Therapy, MS

**PLO 1** Be educated as a generalist with a broad exposure to the delivery models and systems used in settings where occupational therapy is currently practiced and where it is emerging as a service.

**PLO 2** Achieve entry level competence.

**PLO 3** Articulate and apply occupational therapy theory, models of practice, clinical reasoning to evidence-based evaluations and interventions to achieve expected outcomes.

**PLO 4** Uphold the ethical standards, values, and attitudes of the occupational therapy profession.

**PLO 5** Be a competent and critical consumer of research and knowledge that supports practice.

**PLO 6** Understand and value the occupational core of the profession.

**PLO 7** Identify the social, political, economic and cultural issues in a diverse society that impact the ability of individuals, communities and populations (clients) to participate in meaningful occupations.

**PLO 8** Advocate for individuals, communities and populations (clients) and actively promote occupational therapy.

**PLO 9** Demonstrate professional and leadership behaviors.

**PLO 10** Be prepared to make a positive impact on occupational pursuits for the health and well-being of society.

**PLO 11** Be self-directed, life-long learners.

## P

### Philosophy, MA

**PLO 1** Be able to identify, understand and critically discuss, both orally and in a sustained major written essay, and in a written exam taken without the benefit of notes, major figures and ideas in various historical periods and in various traditions from around the world. Identify and discuss, both orally and in a sustained major written essay, core areas of Philosophy.

**PLO 2** Have high level skills in communication, critical inquiry and the ability to collect and evaluate information successfully, and to use all of these skills in their own original research.

**PLO 3** Have an understanding of the demands of responsible citizenship and an understanding of how to make and defend ethical choices.

**PLO 4** Understand the ways in which culture, race, ethnicity, gender, economic class, sexual orientation, and national membership influence perceptions about reality, knowledge and value.

**PLO 5** Be able to teach and assess all these skills and competencies at the lower division undergraduate level.

### Physics, MS

**PLO 1** Students will be able to formulate specific research questions, design and perform experiments and research that address these questions.

**PLO 2** Students will demonstrate a deep understanding of physics concepts by applying those concepts to research in physics.

**PLO 3** Students will be able to apply laboratory, modeling, computational and/or data analysis skills to their physics research.

**PLO 4** Students will be able to communicate scientific content and thinking effectively as evidenced by productive collaboration with peers, well-reasoned professionally formatted written research papers and visual and oral presentations of research topics.

**PLO 5** Students will be able to demonstrate an understanding of how work in physics influences technology, society and culture.

### Physics, MS (Concentrations in Computational Physics and Modern Optics)

**PLO 1** Students know basic physics principles.

**PLO 2** Students can effectively communicate with the physics community through scientific journals, poster presentations, and scientific talks.

**PLO 3** Students are prepared for careers in science, industry and education.

### Psychology, Clinical Psychology Concentration, MS

**PLO 1A** Students will demonstrate breadth of knowledge of a variety of psychotherapy theories and in-depth knowledge of one chosen theory of intervention.

**PLO 1B** Students will demonstrate knowledge of empirically supported clinical interventions and evidence ability to

select treatments for individual clients given this literature.

**PLO 2A** Students will demonstrate effective integration and communication of clinical case material.

**PLO 2B** Students will demonstrate the ability to synthesize contextual and cultural variables into presentations of client materials.

**PLO 2C** Students will effectively respond to queries about clinical material and engage in discussions about their clients with supervisors and peers.

**PLO 2D** Students will be able to think and discuss cases other than their own, applying theories, principles, and relevant empirical findings to those cases.

**PLO 3** Students will demonstrate understanding of different assessment devices and strategies for assessing client outcome over the course of treatment including standardized nomothetic and idiographic approaches.

**PLO 4** Students will demonstrate depth and breadth of understanding in areas including, but not limited to, psychotherapy theory, service delivery, ethics, assessment, research methods, family therapy, cultural diversity, psychopharmacology, and issues relevant to adult and child clinical populations. Students will be able to apply this knowledge to clinical cases.

**PLO 5** Students will demonstrate fulfillment of coursework and other pre-degree licensing requirements outlined by the Board of Behavioral Sciences.

#### Psychology, Industrial/Organizational Psychology Concentration, MS

**PLO 1A** Students will learn core psychological competencies including: History of I/O Psychology and its integration into the broader discipline and Related fields of psychology (i.e. social psychology, personality psychology, psychometrics, motivation, learning theory).

**PLO 1B** Students will learn core I/O competencies including: Ethical, legal and professional issues, Measurement of individual differences, Criterion theory and development, Job and task analysis, Employee selection, Performance appraisal and feedback, Training and development, Work motivation, Attitude theory, Organization theory, and Organizational development.

**PLO 1C** Students will learn data collection and analysis skills including: Research methods (i.e. methods, procedures, and techniques used to conduct empirical research in I/O psychology) and Statistical methods (i.e. techniques used in the analysis of data generated by empirical research).

**PLO 2** Students will perform professional activities related to I/O Psychology including, but not limited to: Administering employee surveys, Evaluating organizational interventions, Conducting job analyses, Creating selection tests, and Developing performance management systems.

#### Psychology, Research and Experimental Psychology Concentration, MA

**PLO 1** Students completing the MA in Psychology program will be able to demonstrate advanced knowledge of the major theoretical perspectives and research methods across areas of experimental psychology (i.e., Developmental, Social, Cognitive, and Physiological).

**PLO 2** Graduates of our program will possess an advanced level of competence in research methods, statistical techniques, and technical writing skills.

**PLO 3** Students completing the MA in Psychology program will achieve career enhancement through placement in a doctoral program or acceptance of a position requiring a master's in psychology in the public or private sector.

#### Public Administration, MPA

**PLO 1A** Lead and manage in public governance - Apply the project management approach to public management models.

**PLO 1B** Lead and manage in public governance - Manage projects.

**PLO 1B** Lead and manage in public governance - Understand the relationships between public policy, whether proposed or enacted, and leadership and management in implementation.

**PLO 2A** Participate in and contribute to the public policy process - Apply techniques for program evaluation and policy analysis.

**PLO 2B** Participate in and contribute to the public policy process - Describe and execute the policymaking process,

including defining the problem, setting the agenda, formulate policy, implement policy and evaluate policy.

**PLO 2C** Participate in and contribute to the public policy process - Prepare a budget reflecting policy priorities.

**PLO 3A** Analyze, synthesize, think critically, solve problems and make decisions - Employ analytical tools for collecting, analyzing, presenting and interpreting data, including appropriate statistical concepts and techniques.

**PLO 3B** Analyze, synthesize, think critically, solve problems and make decisions - Identify and employ alternative sources of funding, including grants, taxes and fees.

**PLO 3C** Analyze, synthesize, think critically, solve problems and make decisions - Understand and apply the legal context of public affairs, administration and policy.

**PLO 4A** Articulate and apply a public service perspective - Behave ethically and with integrity: tell the truth, keep confidences, admit mistakes.

**PLO 4B** Articulate and apply a public service perspective - Understand and apply criteria appropriate to public affairs, administration and policy.

**PLO 4C** Articulate and apply a public service perspective Maintain privacy and security of documents and understand Big Data challenges.

**PLO 5A** Communicate and interact productively with a diverse and changing workforce and citizenry - Communicate effectively in writing: prepares clear, concise and well-organized written materials tailored to the audience's level of expertise and needs.

**PLO 5B** Communicate and interact productively with a diverse and changing workforce and citizenry - Communicate effectively in speech: presents oral information accurately, clearly, concisely persuasively tailored level of expertise and needs.

**PLO 5C** Communicate and interact productively with a diverse and changing workforce and citizenry - Work productively in teams.

#### Public Health, MPH

**PLO 1** Apply quantitative and qualitative forms of analysis to emerging trends, priorities, and assets in order to predict future individual, community, and population health needs and opportunities, taking into account public health's historical foundations and current evidence base, and to communicate the implications for health promotion policy and practice.

**PLO 2** Apply concepts and theories of behavior, education, systems, complexity, communication, and ecological frameworks to design, plan, implement, evaluate, and disseminate health education and health promotion interventions and policy in accordance with public health objectives, community needs, and organizational and community goals.

**PLO 3** Provide technical assistance and act as a health education resource across a broad range of settings to promote community health through community building and organizing with identified stakeholders, including community members, consumers, health practitioners and health care providers, policy and decision-makers.

**PLO 4** Apply principles and skills of leadership and management to human, fiscal, capital, and social resources when administering health education strategies, interventions, and programs.

**PLO 5** Apply the principles and skills of effective inclusive and multicultural practice when engaging with individuals, groups, organizations, and communities from diverse cultures and backgrounds.

**PLO 6** Apply policy analysis methods and develop an advocacy strategy to advance public health policy.

**PLO 7** Advance public health practice and the health education profession by drawing upon historical and contemporary contributions of the field and applying principles of social justice.

**PLO 8** Adhere to standards for ethical practice and research based on their personal values and mission statements, institutional mandates, and the Code of Ethics for the Health Education Profession, in order to apply them to fields of public health and community health education.

## S

#### Science Education, MA

**PLO 1A** Students will be able to synthesize primary literature from science education research and apply how it fits to their project.

**PLO 1B** Students will demonstrate knowledge of at least two areas (e.g. inquiry based instruction, learning theory, assessment) that are related to, or supportive of research for their project.

**PLO 2A** Students will present science and science education content in the form of graduate seminars or in the oral defense of their project (also known as the culminating experience).

**PLO 2B** Students will organize and write the results of their project in a manner consistent with standards in professional science education publications.

#### Social Work, MSW

**PLO 1** Demonstrate Ethical and Professional Behavior.

**PLO 2** Engage Diversity and Difference in Practice.

**PLO 3** Advance Human Rights and Social, Economic, and Environmental Justice.

**PLO 4** Engage In Practice-informed Research and Research-informed Practice.

**PLO 5** Engage in Policy Practice.

**PLO 6** Engage with Individuals, Families, Groups, Organizations, and Communities.

**PLO 7** Assess Individuals, Families, Groups, Organizations, and Communities.

**PLO 8** Intervene with Individuals, Families, Groups, Organizations, and Communities.

**PLO 9** Evaluate Practice with Individuals, Families, Groups, Organizations, and Communities.

#### Sociology, MA (Not Accepting Students)

**PLO 1** Identify and describe current social issues and social problems in their cultural, historical, and socio-political contexts, and formulate potential solutions to them, using relevant sociological literature.

**PLO 2** Explain, and evaluate the ways in which sociological theories and methods are used outside of academic settings in the practice of sociology and the production of positive social change.

**PLO 3** Use social theory to critically interpret and evaluate both published social scientific research and social policies and programs.

**PLO 4** Produce research (qualitative, quantitative, and/or evaluative) using theory-driven research questions and understand the ethical issues involved with various methodological approaches.

**PLO 5** Employ oral, written, and other technologically driven mediums to communicate and present sociological knowledge.

**PLO 6** Demonstrate expertise in a select subfield of sociology.

#### Software Engineering, MS

**PLO 1** Be able to demonstrate an understanding of advanced knowledge of the practice of software engineering, from vision to analysis, design, validation and deployment.

**PLO 2** Be able to tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies and tools.

**PLO 3** Be able to demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science and business.

**PLO 4** Be aware of ethical, economic and environmental implications of their work, as appropriate.

**PLO 5** Be able to advance successfully in the engineering profession, and sustain a process of life-long learning in engineer or other professional areas.

**PLO 6** Be able to communicate effectively, in both oral and written forms.

#### Spanish, MA

**PLO 1** Ability to understand the historical development of the Spanish language in its external (history, culture) and internal development (morphology, syntax and semantics).

**PLO 2** Knowledge of and familiarity with the linguistic variation of Spanish and its main dialects, including phonology, geographical variation, social dialects, and registers.

**PLO 3** Knowledge of the literatures and cultures of the Spanish-speaking world (Spain, Spanish America and the

Hispanic U.S.) and relevant literary and cultural criticism.

**PLO 4** Ability to write and present orally in a scholarly fashion.

Statistics, MS

**PLO 1** The student will communicate statistical ideas effectively.

**PLO 2** The student will use technology effectively to assist in solving large statistical problems.

**PLO 3** The student will use statistical modeling to solve practical problems.

## T

Taxation, MS

**PLO 1** To identify, understand and resolve complex and multijurisdictional tax issues within the context of our global economy and society.

**PLO 2** To learn and acquire research skills for exploring both familiar and novel areas of the tax law and to communicate the findings using clear terms.

**PLO 3** To develop conceptual and critical analytic skills with real world applications.

**PLO 4** To appreciate tax policy issues and foundations of the tax law.

**PLO 5** To understand the ethical implications of tax practice.

**PLO 6** To develop skills for effective tax practice including keeping current, interacting with others, and career advancement.

Teaching English to Speakers of Other Languages (TESOL), MA

**PLO 1A** Students will analyze language as a system consisting of phonology, morphology, syntax, semantics, lexis, pragmatics, and discourse and articulate the relationships between the various intrasentential levels and features of English structure.

**PLO 1B** Students will correlate the knowledge and analytical skills in objective 1A with the four skills of reading, writing, listening, and speaking with sufficient precision to teach and assess proficiency in English as a non-native language.

**PLO 2A** Students will demonstrate an understanding of the role of pragmatic knowledge and knowledge of text structure in the comprehension, production, and acquisition of a second language.

**PLO 2B** Students will demonstrate an understanding of the intersection between culture, language, language learning and teaching, and language use with particular reference to English as a global language.

**PLO 2C** Students will apply theoretical knowledge of second language acquisition in second language learning/acquisition contexts.

**PLO 3A** Students will identify the instructional strategies that go with the established teaching methods and apply them to various language learning and teaching situations.

**PLO 3B** Students will critically evaluate the teaching of actual ESL classes with regard to teaching strategies and activities and with regard to goals 1 and 2.

**PLO 3C** Students will demonstrate an understanding of the theory and practice of needs analysis, curriculum design, and assessment techniques.

**PLO 3D** Students will develop ESL curriculum for diverse target groups, design supplementary materials for use with particular instructional strategies, and develop language tests and assessment instruments by synthesizing the objectives of goals 1 and 2 and the teaching strategies in objective 3A.

**PLO 4A** Students will critically examine concepts such as race, ethnicity, identity, and culture and their relationship to language teaching and learning in the context of a globalized world.

**PLO 4B** Students will design syllabi that create classroom and program environments that foster global cultural consciousness.

**PLO 5A** Students will complete a one-semester supervised practicum in which they plan lessons and teach English to an actual ESL class.

**PLO 5B** Students will carry out independent research.

**PLO 5C** Students will effectively write and present for professional audiences.

#### Transportation Management, MS

**PLO 1 Transportation Systems and Society** - Develop a systems-savvy and global perspective on solving transportation management challenges.

- a. Develop systems-savvy solutions to transportation management challenges.
- b. Develop globally-aware solutions to transportation management challenges.

**PLO 2 Transportation Policy** - Develop solutions to transportation management challenges that integrate knowledge of the transportation policy environment.

- a. Analyze policy problems to identify the relevant legislative and administrative structures that guide the decision.
- b. Analyze a transportation management scenario to identify the appropriate roles for different government entities, as well as for political, private sector, and/or nonprofit actors.
- c. Analyze transportation tax or fee proposals to determine if and how they contribute to achieving transportation system performance objectives and broad social policy goals.

**PLO 3 Leadership** - Identify and analyze leadership styles and traits.

- a. Articulate one's own leadership capacity based on an examination of personal leadership style, skills, and preferences.

**PLO 4 Communications** - Communicate effectively with a diverse workforce and citizenry.

- a. Prepare written materials that are clear, grammatically correct and free of typos, and tailored to the audience's needs and level of expertise.
- b. Deliver oral presentations that are clear, concise, and tailored to the audience's needs and level of expertise.

**PLO 5 Analytical Skills** - Identify and evaluate transportation management issues using appropriate data and methods.

- a. Collect, analyze, and synthesize information from multiple sources using appropriate data and methods.

## U

#### Urban Planning, MUP

**PLO 1** Conceptualize planning problems from complex, real-world situations so that the problems are meaningful to clients, and are research-worthy.

**PLO 2** Communicate effectively.

**PLO 3** Work effectively as team members and leaders of planning teams, and to apply an understanding of interpersonal and group dynamics to assure effective group action.

**PLO 4** Analyze and synthesize planning knowledge and apply it to address actual planning problems.

**PLO 5** Develop planning strategies to advance community priorities through collaborative engagement with stakeholders, and do so in a manner that deliberately incorporates multicultural and historical perspectives.

## Policies and Procedures

# Course Credit & Numbering

- Unit of Credit
- Credit Hour
- Course Numbering System
- Course Repeats with Grades Averaged
- Duplicate Credit - Inadmissible Repeats
- Excess Units
- Maximum Unit Loads
- Transcript of Record
- Repetition of Courses
- Verification of Unit Load

## Unit of Credit

The unit of credit is the semester unit. Transferred work from a quarter system college or university will be converted to semester system units and grade points. Each semester unit is equal to one and one-half quarter units.

## Credit Hour

As of July 1, 2011, federal law (Title 34, Code of Federal Regulations, sections 600.2 and 600.4) requires all accredited institutions to comply with the federal definition of the credit hour. For all CSU degree programs and courses bearing academic credit, the "credit hour" is defined as "the amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates not less than:

1. One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester or trimester hour of credit, or ten to twelve weeks for one quarter hour of credit, or the equivalent amount of work over a different amount of time; or
2. At least an equivalent amount of work as required in paragraph (1) of this definition for other academic activities as established by the institution, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours."

A credit hour is assumed to be a 50-minute period. In courses in which "seat time" does not apply, a credit hour may be measured by an equivalent amount of work, as demonstrated by student achievement.

## Course Numbering System

### Course Numbers

Lower division (freshman and sophomore) courses are numbered 001-099 and cannot be used for credit in graduate or credential programs; upper division (junior and senior) courses are numbered 100-199; graduate courses are numbered 200-299.



Methods or professional courses given by or for other departments are allowed upper division credit and are numbered 300-399; doctoral courses are numbered 500-599.

## **180 Individual Study and 184 Directed Reading**

Individual Studies (180) and Directed Reading (184) are used for independent study and are generally reserved for majors within a department. Normally, no more than four units of 180 and/or 184 may be taken for baccalaureate credit (see Undergraduate Graduation Requirements).

## **96, 196, 296, and 596 Experimental Courses**

Courses numbered 96, 196, 296, and 596 are offered to meet special demands for experimental courses on a temporary basis and are listed in the Schedule of Classes, but not in the academic catalog.

## **400-499 Continuing Education Units**

Courses in the 400-series are especially designed for professional in-service and relicensure purposes. Continuing Education Units (CEUs) are given for these courses. Courses are not applicable to degree programs and units earned do not affect grade point totals or average.

## **1000 No Degree Credit**

Courses in the 1000-series do not earn credit toward any degree program. Examples: remedial courses and units devoted to thesis, project, or dissertation beyond minimum required units. (Effective May 30, 2016)

## **Course Repeats with Grades Averaged**

1. Undergraduate and post-baccalaureate students may repeat a maximum of 28 units for graduation credit (including units repeated for Grade Forgiveness; excluding grades of "W"). After the pool of Grade Forgiveness units have been depleted or used to the fullest extent allowable, the repeat grade shall not replace the original grade. Instead grade points and units from all attempts shall be calculated in the student's SJSU cumulative GPA and overall GPA.
2. Graduate students may repeat a maximum of 9 units of upper division or graduate course work for graduation credit.
3. Course repeats with Grades Averaged will be assigned automatically for all eligible courses as soon as a student registers. Once the pool of available units is insufficient for the next repeated course, unused units may be applied to a future course of lower unit value or simply left unused in the pool. If a repeated course is dropped prior to the Drop Deadline or a "W" is recorded for a repeated course, then the Grade Averaged units return to the pool of available unit.

Students who (1) have repeated the maximum allowable units, (2) are otherwise making appropriate progress to degree, and (3) still need to repeat courses to fulfill specific major or minor requirements necessary for graduation may petition for an exception to the 28-unit limit. Undergraduate Education and the Registrar's Office will administer the petition process. Any course(s) approved for repeating by this petition process will be Grade Averaged.

## **Duplicate Credit - Inadmissible Repeats**

Unless a course is designated "Repeatable for Credit" in the catalog, repeating a course in which a "C or better" was earned on the first attempt is not admissible. This restriction applies whether the first attempt was at another institution and the second attempt at SJSU, or the reverse. Articulation agreements determine if the course at another institution is considered equivalent to an SJSU course. See the course-to-course articulation information.

If the "inadmissible repeat" (second attempt) is taken at SJSU before the transfer record from the first non-SJSU attempt is posted, the units and grade points will appear on the transcript and the grade will initially be calculated into the SJSU and All College grade point averages. Students should be aware that units completed and grade points cannot be earned for "inadmissible repeats" and will be removed at any time prior to graduation. The grade earned will be indicated on the student's record. Students should keep track of these units and not count them twice for graduation purposes.

This same restriction about duplicate credit applies to credit earned by AP, CLEP and IB exams. AP, CLEP and IB exams articulate to specific SJSU courses. See credit by exam articulation information. When an exam and a course duplicate credit, the exam credit shall be removed or reduced according to the amount of overlap (EO 1036).

## Excess Units

Enrollment limits for undergraduate students will be set on a semester by semester basis. Petitions and information are available at Registrar's Office.

## Maximum Unit Loads

An undergraduate student who takes 12 or more units is classified as full-time for the purposes of financial aid. An average unit load of at least 30 units per academic year (15 units per semester without summer or winter coursework) is required to complete an undergraduate degree in four years. Advising is essential to be able to complete a degree in a timely and efficient manner. Students with work or family responsibilities outside of school should consult with an advisor and reduce their study loads appropriately.

The maximum load for graduate students is normally 15 semester units. Reasonable exceptions beyond this number up to 18 units may be approved, by the graduate advisor and department chair, for sufficient cause, but permission must also be garnered from the Associate Dean of Graduate Studies by means of the Graduate Petition for Excess Units. Loads beyond 18 units for graduate students are prohibited by the CSU. The Graduate Studies & Research Committee strongly recommends that graduate students carry no more than 12 units of 200-level work in any one semester. There is no official minimum load for graduate students other than for those who wish to receive financial assistance or other benefits.

Immigration and Customs Enforcement (ICE) regulations on international students require that undergraduates maintain full-time status of 12 semester units and graduate students 9 semester units, excluding summer in both cases. To appeal this regulation, go to International Student and Scholar Services (ISSS).

## Transcript of Record

### Transcript Requests

Current and former San Jose State students have several ways to order official and unofficial transcripts

- Current students should use their MySJSU Account.

- Former students must order from our vendor Credentials Inc. You do not need your SJSU ID number to place an order.
- For unofficial transcript, log into your MySJSU Account. Tutorial available online. If you no longer have access to MySJSU, and you've attended after 1991, come in person to Window "R" in the Student Services Center, and we can print an unofficial copy for you (photo ID is required). If you cannot come in person, you must order an official transcript.

Visit the Registrar's Office website, for more information on Transcripts.

## Holds

If there is any financial hold or administrative obligation on your student records, it must be cleared with the department that placed the hold before transcripts can be processed. Holds may be placed on your student records by other campus departments for various reasons (e.g. fees, books, housing, equipment or documents).

## General Transcript Regulations:

1. Transcripts are a complete record of all courses and/or degrees completed at San José State University. Transcripts do not include course work completed at other institutions. Only the transferable units are reflected on transcripts under "Transfer Credit". Transcripts from high schools or other colleges cannot be duplicated. You must apply directly to each school for copies of their transcripts.
2. For students who have undergraduate and post-baccalaureate or graduate course work, please be aware that it is not possible to separate undergraduate course work from the post-baccalaureate or graduate course work. All careers will appear on the transcript as it is considered one official record.
3. Transcript requests will not be accepted by fax or e-mail.
4. We do not accept requests for unofficial transcripts. Unofficial transcripts can be obtained through your Student Center page on the mySJSU portal (current and newly graduated students only). If you need assistance with your mySJSU account, please contact the IT Help Desk via e-mail: [ithelpdesk@sjsu.edu](mailto:ithelpdesk@sjsu.edu)

## Repetition of Courses

In accordance with University Policy, F08-2, undergraduate and post-baccalaureate students (regular enrollment and Open University) may repeat courses only if they earned grades lower than a "C" (including "WU", "IC", and "NC").

Special programs, such as credential programs, that are governed by external standards may require grades higher than a C. In courses specific to those programs, a course repeat may be permitted when the grade does not meet the necessary standard.

Graduate students may repeat courses only if they earned grades lower than a "B" (including "WU", "IC", and "NC").

Repeating a course with an Incomplete ("I") grade is not allowed; a grade must be assigned or the "I" must revert to an "IC" prior to repeating the course. Repeating a course with an "RP" is allowed, although the course instructor and individual departments should be consulted for their requirements in this regard.

The limits on course repetition apply only to units completed at SJSU.

1. See Repeating a class for more information.
2. Courses designated "Repeatable for Credit" may be repeated even though the original grade was "C" or better.

3. The policies regarding repetition of courses with Grade Forgiveness or Grade Averaging (as described below) apply only to courses taken and repeated at SJSU.

## Verification of Unit Load

In verifying enrollments to the Veterans' Administration, scholarship boards and loan agencies, the university reports the total number of units enrolled as the official unit load for an undergraduate.

The definition of "full-time student" made by the United States Citizenship and Immigration Service (USCIS), Veteran's Administration and other agencies may vary. Students who are concerned with their status are urged to contact the specific agency involved to determine its policies. Full veterans' subsistence payments require a course load of 12 weighted semester units for both graduate and undergraduate students. Graduate students from foreign countries who are in the U.S. on student visas must normally carry nine semester units to maintain full-time student status, while undergraduate international students must carry 12 semester units to maintain the required full-time status.

Students may request verification of unit load from the Registrar's office located in the Student Services Center.

## Grades

- Change of Grade
- Grade Appeals and Grade Assignments
- Grade Disputes and Grievances
- Grade Forgiveness
- Grading System  
Graded | Auditing | Credit/No Credit | Incomplete | Report Delayed | Report in Progress | Withdrawal
- Grading System for Graduate Work
- Timely Feedback on Class Assignments

## Change of Grade

The basic principle underlying changes of grade is that all students be treated fairly and be given equal opportunities to demonstrate their academic learning and earn course grades representing that learning. Application of this criterion precludes the assignment of extra credit unless such assignments were made known and available to all students in the class. It further precludes rejudgment, afterthought, or reconsideration of an individual's graded work unless such opportunity for change of grade is made equally available to all students in the class.

Unless a rejudgment, afterthought, or reconsideration is applied fairly and equally for all students in a class, a change of grade request may be submitted only when there is an error in grading an assignment or course component, or in the case of a clerical, computational, transcriptional, or other administrative error. The specific nature of the error shall be recorded on the form requesting the change of grade. Once approved, the original grade will be removed from the transcript and the new (changed) grade will replace it.

A change of grade request must be submitted by the department office directly to the Office of the Registrar in a timely fashion. Normally, such requests must be received by the drop deadline of the following Spring or Fall semester and will require the signatures of the instructor and the department chair. Further extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair, and the late submission of the change of grade form is clearly beyond the student's control.

A change of grade request received after the drop deadline of the following Spring or Fall semester and within one calendar year after the posting of the grade requires the signature of the appropriate college Associate Dean in addition to those of the instructor and the department chair.

A change of grade request received more than one year after the posting of the grade will require, additionally, the approval of the Associate Dean for Undergraduate Education or Associate Dean for College of Graduate Studies, as appropriate.

## Grade Appeals and Grade Assignments

**Student Fairness Dispute, University Policy S14-3**

## Assignment of Grades and Provisions for Appeals

The following principles support the minimum standards governing the assignment of grades and provisions for appeals (per CSU Executive Order 1037):

1. Faculty have the sole right and responsibility to provide careful evaluation and timely assignment of appropriate grades.
2. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise.
3. In the absence of compelling reasons, such as instructor or clerical error, prejudice or capriciousness, the grade assigned by the instructor of record is to be considered final.
4. Process for student appeal
  1. Students who believe that an appropriate grade has not been assigned should first seek to resolve the matter informally with the instructor of record (per Change of Grade section).
  2. If the matter cannot be resolved informally, the student may pursue a grade appeal and present his or her case to the Student Fairness Committee (according to University Policy S14-3, Student Fairness Dispute Resolution), have it reviewed and, where justified, receive a grade correction.
5. If the instructor of record does not assign a grade, or if he or she does not change an assigned grade when the necessity to do so has been established by appropriate campus procedures, it is the responsibility of other qualified faculty as determined by the appropriate campus entity. "Qualified faculty" means one or more persons with academic training comparable to the instructor of record who are presently on the faculty at that campus.
6. SJSU shall maintain and implement existing policy and procedures covering the assignment of grades and grade appeals that include the following provisions:
  1. The time and manner of reporting course grades including provisions for assuring that such grades have been assigned by the instructor of record.
  2. Circumstances under which the instructor of record may change a grade once assigned, and procedures for making such changes.
  3. A means for preliminary review of potential appeals that may resolve differences before initiation of formal proceedings.
  4. Grounds for which a grade appeal is permitted.
  5. One or more committees for hearing grade appeals that shall provide safeguards to assure due process for both student and instructor. Such committees shall include student membership. Student members shall not participate in assignment of grades.
  6. Procedures whereby grades are assigned by other qualified faculty in circumstances where the instructor of record does not do so, including those instances where a grade change is recommended by a grade appeals committee and the instructor of record does not carry out that recommendation.
  7. Specification of time limits for completion of various steps in the appeal process and of the time period during which an appeal may be brought.
  8. Description of the extent of the authority of the appeals committee(s), including provisions that clearly limit grade changes to instances where there is a finding that the grade was improperly assigned.
  9. Limitation of committee authority to actions that are consistent with other campus and system policy.
  10. A statement that there is a presumption that grades assigned are correct. Thus, the burden of proof rests with the individual who is appealing.
  11. Procedures for dealing with allegations of improper procedure.
  12. Assignment of authority to revise policies and procedures for grade appeals to the campus Academic Senate. The campus president is responsible for ensuring that such revisions conform to the principles and provisions of this executive order.
  13. Provision for annual reporting to the President and Academic Senate on the number and disposition of cases heard.

## **Change of Grade (Not Resulting from a Grade Appeal)**

1. The basic principle underlying changes of grade is that all students be treated fairly and be given equal opportunities to demonstrate their academic learning and earn course grades representing that learning. Application of this criterion precludes the assignment of extra credit unless such assignments were made known and available to all students in the class. It further precludes rejudgment, afterthought, or reconsideration of an individual's graded work unless such opportunity for change of grade is made equally available to all students in the class.
2. Unless a rejudgment, afterthought, or reconsideration is applied fairly and equally for all students in a class, a change of grade request may be submitted only when there is an error in grading an assignment or course component, or in the case of a clerical, computational, transcriptional, or other administrative error. The specific nature of the error shall be recorded on the form requesting the change of grade. Once approved, the original grade will be removed from the transcript and the new (changed) grade will replace it.
3. A change of grade request must be submitted by the department office directly to the Office of the Registrar in a timely fashion. Normally, such requests must be received by the drop deadline of the following Spring or Fall semester and will require the signatures of the instructor and the department chair. Further extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair, and the late submission of the change of grade form is clearly beyond the student's control.
4. A change of grade request received after the drop deadline of the following Spring or Fall semester and within one calendar year after the posting of the grade requires the signature of the appropriate college Associate Dean in addition to those of the instructor and the department chair.
5. A change of grade request received more than one year after the posting of the grade will require, additionally, the approval of the Associate Dean for Undergraduate Studies or Graduate Studies, as appropriate.
6. If a request for a change of grade is approved by the instructor but denied at a subsequent level of review, a written explanation for the denial shall be provided to the student, the faculty member, and the department chair.

## Integrity of the Academic Record

1. All grades reported at the end of each semester are final, unless changes have been made according to the provisions given above, or those of University Policy F08-2. Students are responsible for reviewing their grades for accuracy before the beginning of the subsequent term. They are also responsible for verifying their transcripts for changes, e.g., from grade forgiveness, withdrawals, clearance of Incomplete grades, or clearance of Report Delayed (RD) grades.
2. A student who believes he or she has received a grade in error should contact the instructor to verify and, if appropriate, correct the grade. If an instructor is unavailable or absent during the subsequent semester, the student should promptly consult with the department chair about the grade in question. If the department chair is unable to contact the instructor, he or she shall notify the Associate Dean of the college in writing, requesting that an extension of the grade correction deadline be granted. The Associate Dean will then contact the Office of the Registrar if the request for an extension is deemed valid.
3. After a degree has been posted, no further adjustments can be made on the record except under extraordinary circumstances as determined by Undergraduate Studies or Graduate Studies.

## Grade Disputes and Grievances

### What is a Grievance?

A grievance is an allegation of an unauthorized or unjustified act or decision by a faculty or staff or an administrative officer (hereafter referred to as university employee(s)), that in any way adversely affects the status, rights or privileges of a student.

### **What is a Grade Dispute?**

There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise (EO 1037).

We encourage you to contact the University Ombudsperson with questions or concerns related to a grievance or dispute. The Ombudsperson is a neutral, confidential, and impartial resource accessible to students, faculty, and staff.

For more information, please visit: [www.sjsu.edu/ombudsperson](http://www.sjsu.edu/ombudsperson).

## **Grade Forgiveness**

### **Grade Forgiveness (Formerly known as "Academic Renewal")**

Course Repeats with "Grade Forgiveness."

Formerly known as "Academic Renewal" at SJSU, Grade Forgiveness is the circumstance in which the new grade replaces the former grade with respect to the calculation of GPA. The original grade remains on the transcript.

1. Undergraduate and postbaccalaureate students may repeat a maximum of 16 units of total Grade Forgiveness, consisting of a combination of up to 9 units (maximum) of lower division (numbered 0-99) course work, and up to 9 units (maximum) of upper division (numbered 100-199) course work.
2. Graduate (numbered 200-299) course work is not eligible for Grade Forgiveness. Graduate students are not eligible for Grade Forgiveness, but may repeat up to 9 units of upper division or graduate course work through Grade Averaging.
3. Grade Forgiveness will be assigned automatically for all eligible courses as soon as a student registers. Eligible courses include those courses with earned grades lower than a "C" (including "WU", "IC"; but excluding "NC"). Once the pool of available units is insufficient for the next repeated course, unused units may be applied to a future course of lower unit value or simply left unused in the pool. If a repeated course is dropped prior to the Drop Deadline or a "W" is recorded for a repeated course, then the Grade Forgiveness units return to the pool of available lower division or upper division units, as appropriate.
4. To opt out of grade forgiveness: A student may petition to have a repeated course NOT be granted Grade Forgiveness. Such petitions must be submitted prior to the Census Date for the term in which the course is repeated. See [www.sjsu.edu/ugs](http://www.sjsu.edu/ugs) for instructions and forms.
5. Students may repeat an individual course for Grade Forgiveness only once.
6. Grade Forgiveness shall not be applicable to courses for which the original grade was the result of a finding of academic dishonesty.

Grade Forgiveness that results in a higher GPA will not remove a prior academic standing.

The policy regarding repetition of courses with Grade Forgiveness apply only to courses taken and repeated at SJSU (University Policy F08-2)

## **Grading System for Undergraduate Courses**

SJSU does not mail grades. Grades from Spring 1991 to the present are available at MySJSU (Search "MySJSU" in the Search Bar at [One.SJSU.edu](http://One.SJSU.edu)). SJSU ID and Password required.



See Transcripts in the Directory for information on official transcript requests.

## Letter Grading - "Graded"

The grading policy of SJSU provides that A, B, C, D, F, shall be the basic grading system and shall apply to all course work acceptable toward a degree program except for those courses in which it is mandatory or permissible that Credit/No Credit grades be used. To determine a student's standing, whether "good," probationary or disqualified, quality of performance and progress toward degree completion are considered based on units attempted, grade points earned and grade point average (GPA).

Grade	Points Per Unit
A+, A	4.0
A-	3.7
B+	3.3
B	3.0
B-	2.7
C+	2.3
C	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
F	0.0

WU, NC, CR, I, IC, AU, W, WB, RP 0.0

The scholarship average is based on courses in which letter grades are earned (the total number of grade points divided by the number of units in letter graded courses). Grade points are assigned as follows.

The grades of "CR," "NC," "AU" (audit), "I," "W," "WB," and "RP" (report in progress) receive no grade points and the units are not considered in computing grade point average. A plus or minus sign following a grade of "A," "B," "C," or "D" will affect the grade points allowed as indicated in the table. A grade of "A+" cannot exceed 4.0 grade points per California Code of Regulations, Title 5, Division 5, Chapter 1, SubChapter 2, Article 2, 40104.

Undergraduate and postbaccalaureate students must maintain an SJSU Cumulative GPA of 2.0 or better (calculated by dividing grade points (GP) by units graded (UG)).

## Auditing a Class - "AU"

An auditor must be officially enrolled in the course. Enrollment as an auditor is subject to permission of the instructor provided there is space available in the course. Auditors are subject to the same fee structure as credit students and regular class attendance is expected. Once enrolled as an auditor, a student may not change to credit status unless such a change is requested no later than the last day to add classes in that term. A student who is enrolled for credit may not change to audit after the last day to add classes in that term.

## Credit/No Credit (CR/NC)

### Credit/No Credit (CR/NC) - Elective (Undergraduates Only)

An upper-division (Junior or Senior) student shall have the option of taking a maximum of 12 semester units as long as the units are not in the major or minor, or in support of, preparation for or prerequisite to the major or minor, or for General Education on the basis of Credit/No Credit for courses under the basic letter grade system. Eligible students may choose this option by turning in the CR/NC Option Form, by the add deadline. Students may accumulate a maximum of 60 semester units of Credit/No Credit grades toward a baccalaureate degree.

In addition to turning in the CR/NC Option form, you must have officially added the class. For undergraduate courses: Credit = A, A-, B+, B, B-, C+, C, C-; No Credit = D+, D, D-, F, IC, WU.

### Credit/No Credit (CR/NC) - Mandatory

"CR/NC" grades are mandatory for thesis and remedial course work. It is also normally used in projects, field work, internships, individual studies, or directed reading. As recommended by departments and approved by the college dean, credit/no credit grades may be used in activity and laboratory courses, workshops, and selected seminars (colloquia). Students may accumulate a maximum of 60 semester units of Credit/No Credit grades toward a baccalaureate degree (excluding any remedial course work). A maximum of 40 percent of the units required in a graduate degree can be credit/no credit (e.g., 12 units in a 30 unit program). In accordance with University Policy F18-5:

For undergraduate courses: Credit = A, A-, B+, B, B-, C+, C, C-; No Credit = D+, D, D-, F, IC, WU.  
For graduate courses: Credit = A, A-, B+, B, B-; No Credit = C+, C, C-, D+, D, D-, F, IC, WU

## Incomplete - "I / IC "

The symbol "I" (Incomplete Authorized) indicates that a portion of required course work has not been completed and evaluated in the prescribed time period due to unforeseen, but fully justified, reasons and that there is still a possibility of earning credit. The student cannot re-enroll in the course. It is the responsibility of the student to bring pertinent information to the attention of the instructor (regarding the unforeseen reason(s) for requesting an Incomplete) and to determine from the instructor the remaining course requirements that must be satisfied to remove the Incomplete. A final grade is assigned when the work agreed upon has been completed and evaluated. Clearing an incomplete grade does not permit retaking previously completed portions of the course, nor does it permit assignment of additional graded work (e.g., extra credit) that was not available to other students in the class.

An "I" must normally be made up within one calendar year immediately following the end of the term during which it was assigned.

This limitation prevails whether or not the student maintains continuous enrollment. Failure to complete the assigned work will result in an "I" being converted to an "IC" symbol, or an "NC" for non-traditionally graded courses, unless the

faculty member assigns a specific letter grade at the time the Incomplete is assigned, which would replace the "I" in the student's record after the calendar year deadline.

Failure to complete the assigned work within the established calendar year period for an "I" grade will result in an automatic grade change to an "IC" grade which calculates as a failing grade for grade point average and progress point computation.

## Report Delayed - "RD"

The "RD" symbol may be used where a delay in the reporting of a grade is due to circumstances beyond the control of the student. The symbol may be assigned by the registrar only and, if assigned, shall be replaced by a substantive grading symbol as soon as possible.

## Report in Progress - "RP"

The "RP" symbol is used in connection with courses that typically extend beyond one academic term. It indicates that work is in progress but that assignment of a final grade must await completion of additional work. Work is to be completed within one year except for graduate degree projects and theses (supervised courses, e.g., 298 & 299 courses), which have a two-year time limit. Failure to complete the assigned work for an "RP" grade will result in an automatic grade change to an "NC" grade unless a request for an extension has been made and approved.

A final grade will be assigned to all segments of the course on the basis of overall quality. Any extension of this time period must receive prior authorization by the instructor and department chair or school director.

## Withdrawal - "W"

The symbol "W" on the official transcript indicates that the student was permitted to withdraw from the course after the drop deadline for the term with the approval of the appropriate campus administrator. It carries no connotation of quality of student performance and is not used in calculating grade point average or progress points. However, there are limits on the number of allowable units of "W" on the official transcript. Undergraduate students may withdraw from no more than 18 units. Postbaccalaureate students may withdraw from no more than 12 units. Graduate students may withdraw from no more than 9 units. Exceptions to these unit limits are granted when the cause of withdrawal is due to circumstances clearly beyond the student's control and the assignment of an Incomplete is not practicable. Such exceptions are designated "WB" for internal processing of drops and withdrawals, and will revert to "W" on the transcript (University Policy S09-7).

Undergraduates may download the appropriate petition (course drop or withdrawal from all courses forms). Graduate Students may download the Course Drop/Semester Withdrawal petition.

## Withdrawal Unauthorized - "WU"

The symbol "WU" indicates that an enrolled student did not officially withdraw from the course and also failed to complete course requirements. It is used when, in the opinion of the instructor, completed assignments or course activities or both were insufficient to make normal evaluation of academic performance possible. For purposes of grade point average and progress point computation this symbol is equivalent to an "F."

## Grading System for Graduate Work

Traditional letter grades are used for all courses taken by graduate students except for field work, thesis, project, individual study and internship courses, which are usually graded Credit/No Credit or Credit/No Credit/Report in Progress. Incomplete grades are not permitted for thesis or project courses, and Credit may not be given for a thesis or project course before completion of the coursework. Graduate students do not have the option of choice between the traditional or non-traditional grading system. A grade of Credit in a graduate-level course indicates performance by the student equal to a letter grade of "B-" or above.

The cumulative GPA for the master's degree (3.0 minimum) includes all letter-graded work in 100-level or 200-level courses completed within the preceding seven years and for which the student received graduate credit, excluding transfer courses taken at another institution and those taken as an undergraduate at SJSU. Both the cumulative GPA and GPA of all of the course grades on the student's candidacy form, with the exception of non-Open University transfer courses, must be at least at the 3.0 level. Both the cumulative GPA and the GPA of all courses on the candidacy form must be a minimum of 3.0.

The cumulative GPA of the graduate student is computed by dividing the total number of grade points earned by the total number of graded units attempted at SJSU, excluding Open University courses that are not counted as degree requirements, subsequent to enrollment in the graduate school.

## **Timely Feedback on Class Assignments**

In accordance with Students' Rights to Timely Feedback on Class Assignments, University Policy F13-1, every student has the right to know, within reasonable time, his or her academic test scores, to review his or her papers and examinations, and to be provided with an explanation of the determination of a his or her course grade.

With changing pedagogical perspectives and increasing use of technology, instructors give a much wider range of assignment types - presentations, online discussion, group projects, etc. - and students should be granted the same expectation for feedback on all assignments within a reasonable period as with papers, tests, and examinations.

## Registration Fees

- Schedule of Tuition Fees
- Billing
- Fees for Non-Residents/International Students
- Graduate Business Professional Tuition Fee
- Parking Fees
- Nonresident Tuition Exemptions (AB 540)
- Registration Late Fees
- Registration - Deferrals and Waivers
- Late Registration Participants
- Payment Deadlines - Registration
- Registration - Installment Payment Plans (IPPs)
- Loan, Short Term
- Selective Service-Eligibility for Aid
- Refunds - Registration
- Refund - Parking Permits

## Schedule of Tuition Fees - 2020/21

The CSU makes every effort to keep student costs to a minimum. Tuition and fees listed in published schedules or student accounts may need to be increased when public funding is inadequate. Therefore, CSU reserves the right, even after tuition or fees are initially charged or initial payments are made, to increase or modify any listed tuition fees. All listed fees, other than mandatory systemwide tuition, are subject to change without notice, until the date when instruction for a particular semester or quarter has begun. All CSU listed tuition and fees should be regarded as estimates that are subject to change upon approval by the Board of Trustees, the Chancellor, or the Presidents, as appropriate. Changes in mandatory systemwide tuition will be made in accordance with the requirements of the Working Families Student Fee Transparency and Accountability Act (Sections 66028 through 66028.6 of the California Education Code).

The following reflects applicable systemwide tuition and fees for semester campuses that were authorized by the Board of Trustees at the March 2017 meeting. These rates are subject to change.

### All Students

#### Basic Tuition Cost Per Semester

Type of Student	Units	Per Semester	Per Academic Year
Undergraduate	0 - 6.0 units	\$1,665.00	\$ 3,330.00
Undergraduate	6.1 - or more units	\$2,871.00	\$ 5,742.00
Teacher Credential	0 - 6.0 units	\$1,932.00	\$ 3,864.00

Teacher Credential	6.1 or more units	\$3,330.00	\$ 6,660.00
Postbac/Graduate	0 - 6.0 units	\$2,082.00	\$ 4,164.00
Postbac/Graduate	6.1 - or more units	\$3,588.00	\$ 7,176.00
Doctorate* - Audiology	All Students	\$7,371.00	\$14,742.00
Doctorate* - Education	All Students	\$5,919.00	\$11,838.00
Doctorate* - Nursing Practice	All Students	\$7,635.00	\$15,270.00
Doctorate* - Physical Therapy	All Students	\$8,598.00	\$17,196.00

\*Applicable term tuition applies for campuses with special terms, as determined by the campus. Total college year tuition cannot exceed the academic year plus summer term tuition. The summer term tuition for the education doctorate at quarter campuses is equal to the per semester tuition listed in the table. Total tuition for the education doctorate over the college year equals the per academic year tuition plus the per semester tuition for the summer term at all CSU campuses.

## Mandatory Campus Fees Per Semester

Students are charged campus fees in addition to tuition fees and other systemwide fees.

Fee Type	Total Fee
Student Association	\$ 98.00
Student Union	\$ 381.00
Health Center Operations	\$ 190.00
Health Center Facility Fee	\$ 35.00
Document Fee	\$ 16.50
SSETF - IRA	\$ 167.00
SSETF - Course	\$ 34.00
SSETF - Student Success	\$ 133.50
Subtotal (Campus Fees)	\$1,055.00

## Estimated Semester Totals - California Residents

Undergraduate	1.0 - 6.0 units	\$2,720.00
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Undergraduate	6.1 - or more units	\$3,836.00
Teacher Credential	6 units or fewer	\$2,987.00
Teacher Credential	6.1 units or more	\$4,385.00
Postbac/Graduate	1.0 - 6.0 units	\$3,137.50
Postbac/Graduate	6.1 - or more units	\$4,643.00
Doctorate (Education)	1.0 or more	\$ 6,974.00

Note: These fees do not include the \$2.00 optional Student Involvement and Representation Fee (SIRF).

Fees and dates subject to change without notice

## Graduate Business Professional Fee

The charge per unit per semester is \$270.

The graduate business professional fee is paid on a per unit basis in addition to basic tuition and campus fees for the following graduate business programs:

- Master of Business Administration (M.B.A.)
- Master of Science (M.S.) programs in Accountancy
- Master of Science (M.S.) programs in Business Administration
- Master of Science (M.S.) programs in Health Care Management
- Master of Science (M.S.) programs in Business and Technology
- Master of Science (M.S.) programs in Information Systems
- Master of Science (M.S.) programs in Taxation

## Billing

SJSU does not issue bills. To see the amount of fees owed in MySJSU (One.SJSU.edu), after you register for classes, go to: Student Center> Scroll down to Finances> Account Inquiry (link) > Charges Due (tab). Due dates are posted within 24 hours after class registration. It is the student's responsibility to make payments by the stated deadline - failure to pay fees by the due date or making a partial payment will result in all classes being dropped. Note: SJSU does not automatically drop classes after census. If you are on a waitlist, please check your account daily since enrollment in waitlisted classes may result in additional fees owed.

Changing your unit load from 6.0 units to 6.1 or more, will result in additional fees being charged. Check your MySJSU account for your payment due date.

## Fees for Non-Residents/International Students

Nonresident tuition (in addition to basic tuition and other systemwide fees charged all students) for all campuses: The charge per unit per semester is \$396.00. Adding classes will increase the balance on the student account for non-resident students, so check your account after adding classes.

The total nonresident tuition paid per term will be determined by the number of units taken.

Mandatory systemwide tuition is waived for those individuals who qualify for such exemption under the provisions of the California Education Code (see section on fee waivers).

Students are charged campus fees in addition to tuition and systemwide fees. Information on campus fees can be found by contacting the individual campus(es)

## Graduate Business Professional Tuition Fee

For students pursuing the MBA or MS Accountancy degrees, the Graduate Business Professional Fee is charged on a \$270.00 per unit basis in addition to basic tuition and campus fees.

## Parking Fees

A variety of parking permits of varying pricing and duration are available for sale through Parking Online Services. For more information, please visit Parking Services, e-mail [parking@sjsu.edu](mailto:parking@sjsu.edu), or call 408-924-6556.

## Nonresident Tuition Exemptions (AB 540)

If you attended high school in California for at least three full years and graduated or earned an equivalent, you may be eligible for resident tuition. Students must file an affidavit with SJSU stating that they have filed an application with INS to legalize their immigration status or will do so as soon as they are eligible. You will need to show proof of attendance and graduation.

On October 11, 2001, Governor Gray Davis signed Assembly Bill 540 (now Education Code Section 68130.5) creating a new exemption from nonresident tuition for any student who meets ALL of the following criteria:

1. attended high school in California for 3 or more years;
2. graduated from a California high school or attained the equivalent;
3. is registered at, or attending an accredited institution of higher education in California not earlier than Fall 2001; and
4. if a student without lawful immigration status files an affidavit with the campus stating that he or she has applied to legalize immigration status (using INS form I-130, Petition for Alien Relative) or will do so as soon as he or she is eligible.

See Exemption FAQs for additional information.

## Registration Late Fees

Students eligible for participation in advance registration who do not register \$25

Registration after add deadline through census \$45



Post Census Late Enrollment Fee

\$200

## Those exempt from the late fee(s) prior to enrollment census date are:

- Students enrolled in the Step to College program
- Graduate students who cannot enroll in lower division classes during Advance Registration.

## Late Registration Participants

If you add classes during the Late Registration period which change your unit load from 6.0 units to 6.1 or less, additional tuition fees will be due. Review your account via MySJSU ([one.sjsu.edu](http://one.sjsu.edu)) to find the amount due and the payment deadline. Billing statements are not issued.

## Registration - Deferrals and Waivers

In order to receive a tuition fee deferral, your financial aid file must be complete and all requested documents submitted. Check your "To Do" list at MySJSU for requested documents. Once you have submitted all requested documents, a fee deferral will be assigned to your record to hold your classes and delay the payment of registration tuition fees while your financial aid process is completed. To prevent enrollment cancellation, it is your responsibility to submit all requested documents prior to the scheduled tuition fee payment deadline. Be sure to monitor your account at MySJSU for file status changes and "To Do" items.

Important! Financial Aid fee deferrals are temporary and are issued once all requested financial aid documents are submitted. A financial aid fee deferral holds classes and delays the payment of enrollment fees while the financial aid process is completed. To prevent enrollment cancellation, it is the student's responsibility to submit all requested financial aid documents prior to the scheduled fee payment deadline. The financial aid fee deferral does not cover housing charges.

If your tuition fees are to be paid by a third party (i.e. employer, government agency, college savings plan, or foreign embassy), documents must be on file before your payment deadline authorizing the university to bill the agency for your fees. Authorization may be given in person, mailed or faxed to the Bursar's Office at 408-924-1654. If documentation is not received by your payment due date, classes may be dropped.

When financial aid or the amount to be paid by a third party is less than the amount due, you must pay the difference owed.

Federal regulations prevent the university from deducting parking permit charges from financial aid. Financial aid recipients must pay for parking permits separately.

## Payment Deadlines - Registration

Check the Bursar's Office website for the latest registration payment deadlines and due dates.

If students do not pay the amount due by the payment due date(s), all classes will be dropped. Note: We do not automatically drop classes after census. Students wishing to partially drop or withdraw from all classes must do so by following the university policies and procedures.

Returned check/ACH payments - 1st time      \$25

Returned check/ACH payments - after 1st time \$35

**For more information**

Email: [bursar@sjsu.edu](mailto:bursar@sjsu.edu)

408-924-1601

[www.sjsu.edu/bursar/](http://www.sjsu.edu/bursar/)

## Registration - Installment Payment Plans (IPPs)

If registering for classes April 28, 2020 through September 8, 2020 you may sign up for an installment payment plan for either tuition and fees or housing or both.

To enroll in the installment plan, login to MySJSU, navigate to Self service > Student Center > scroll to Finance section > Payment Plans and Account Services. See Bursar's Office for more detailed information on payment plans.

Installment Type	Non-Refundable Processing Fee
Installment Payment Plan (IPP) for tuition and fees	\$35
Installment Payment Plan (IPP) for housing	\$35

See installment payment due dates for more information.

## Payment Plan Features

- There are fees for the payment plans, one for the tuition and fee plan and one for the housing plan.
- There will be a separate payment plan for housing charges
- Payments divided equally

## Loan, Short Term

Short Term loans are available through the Bursar's Office to assist students with expenses over and above tuition, fees and housing. Short term loans are not intended for paying your student account, as they are funds that you borrow against your account, to be paid back during the semester.

**To be eligible, you must:**

- Be current on any outstanding debts to the university
- Must have sufficient financial aid or be gainfully employed

- Must be enrolled in at least half-time (six undergraduate or four graduate units).

## Selective Service-Eligibility for Aid

The federal Military Selective Service Act (the "Act") requires most males residing in the United States to present themselves for registration with the Selective Service System within thirty days of their eighteenth birthday. Most males between the ages of 18 and 25 must be registered. Males born after December 31, 1959 may be required to submit a statement of compliance with the Act and regulations in order to receive any grant, loan or work assistance under specified provisions of existing federal law. In California, students subject to the Act who fail to register are also ineligible to receive any need-based student grants funded by the state or a public postsecondary institution.

Selective Service registration forms are available at any U.S. Post Office, and many high schools have a staff member or teacher appointed as a Selective Service registrar. Applicants for financial aid can also request that information provided on the Free Application for Federal Student Aid (FAFSA) be used to register them with the Selective Service. Information on the Selective Service System is available and the registration process may be initiated online.

## Refunds - Registration

A 100% refund of basic and/or non-resident fees will be given to students who drop all classes or withdraw from the university no later than Sunday, August 16 2020. Refundable fees include basic registration fees, non-resident fees, course fees and the miscellaneous SJSU fees.

A prorated refund will be given to students who withdraw from all classes at SJSU from the first day of instruction, August 19, 2020 through October 24, 2020. (Drops of individual classes will not result in refunds.)

Students who drop units resulting in a lower fee structure and/or mandatory fee obligation will be entitled to a refund of applicable tuition and mandatory fees up to the end of the designated SJSU Late Registration drop period on Monday, August 31, 2020. There are no refunds for individual course drops after this date.

See Pro-Rata Refund for detailed information on refund percentages.

## Financial Aid Students

When students who are receiving financial aid withdraw, the unearned portion of federal and state funds must be returned to the appropriate fund. Financial aid eligibility will be recalculated according to a federal formula. Since funds are based on attendance for the entire semester, financial aid must be recalculated on the actual number of days attended.

## For All Students

### **Sunday, August 16, 2020**

Last day for full refund of both basic registration tuition fees and non-resident tuition.

### **Wednesday, August 19, 2020**

Pro rata refund schedule begins for both basic registration tuition fees and non-resident tuition for students who withdraw from the university. Fees owed will be calculated based on units enrolled after the last day to add (Tuesday, September 8, 2020).

**Monday, August 31, 2020**

After this date, students who remain enrolled but drop classes resulting in a lower fee category will not be eligible for a refund.

**Saturday, October 24, 2020**

The last day to receive a pro-rated refund based on withdrawal or dropping courses.

See Bursar's Office for specific refund details.

## **Special Session and Open University students**

Consult CPGE for specific refund policies.

## **Non-Resident**

If a student completely withdraws or there is a reduction in units, any adjustments to the non-resident tuition is based on the transaction date according to the refund schedule as noted above.

## **Refunds - Parking Permits**

Parking permits can be returned for a prorated refund (which adjusts weekly) minus a \$10 administrative fee. No returns are accepted during the last month of each semester.

For questions or additional information, please contact Parking Services at 408-924-6556 or via email at [parking@sjsu.edu](mailto:parking@sjsu.edu).

All refunds are processed at Parking Services, located in the University Police Building.

## CSU Tuition Fees Policies

- Mandatory Fees Including Non-Resident Tuition
- Fees and Debts Owed to the University
- Nonresident Students (U.S. and Foreign) Tuition
- Determining Residency for Tuition Purposes
- Average Support Cost Per Full-Time Equivalent Student and Sources of Funds
- Cancellation of Registration or Withdrawal from the University
- Fee Waivers and Exemptions - CSU Systemwide
- Nonresident Alien Tax Assessment
- Dishonored Checks
- Establishment or Abolishment of Campus-Based Mandatory Fees
- Voluntary
- Determining Residency for Tuition Purposes

## Mandatory Fees Including Non-Resident Tuition

Regulations governing the refund of tuition and mandatory fees, including nonresident tuition, for students enrolling at the California State University are included in Section 41802 of Title 5, California Code of Regulations. For purposes of the refund policy, mandatory fees are defined as those systemwide and campus fees that are required to be paid in order to enroll in state-supported academic programs at the CSU. Refunds of fees and tuition charges for selfsupport, special session, and Professional Education programs or courses at the CSU are governed by a separate policy established by the University, available at the College of Professional and Global Education (CPGE).

In order to receive a full refund of tuition and mandatory fees, including nonresident tuition, a student must cancel registration or drop all courses by the deadlines for canceling registration and dropping classes as available in the Payments and Refunds section and at [www.sjsu.edu/bursar](http://www.sjsu.edu/bursar).

For state-supported semesters, quarters, and non-standard terms or courses of four (4) weeks or more, a student who withdraws during the term in accordance with the university's established procedures or drops all courses prior to the campus-designated drop period will receive a refund of tuition and mandatory fees, including nonresident tuition, based on the portion of the term during which the student was enrolled. No student withdrawing after the 60 percent point in the term will be entitled to a refund of any mandatory fees or nonresident tuition.

A student who, within the campus designated drop period and in accordance with campus procedures, drops units resulting in a lower tuition and/or mandatory fee obligation shall be entitled to a refund of applicable tuition and mandatory fees established by the campus.

For state-supported non-standard terms or courses of less than four (4) weeks, no refunds of tuition and mandatory fees, including nonresident tuition, will be made unless a student cancels registration or drops all classes, in accordance with the university's established procedures and deadlines, prior to the first day of instruction for state-supported non-standard terms or courses or prior to the first meeting for courses of less than four (4) weeks.

Students will also receive a refund of tuition and mandatory fees, including nonresident tuition, under the following circumstances:

- The tuition and fees were assessed or collected in error;
- The course for which the tuition and fees were assessed or collected was cancelled by the university;

- The university makes a delayed decision that the student was not eligible to enroll in the term for which tuition and mandatory fees were assessed and collected and the delayed decision was not due to incomplete or inaccurate information provided by the student; or
- The student was activated for compulsory military service.

Students who are not entitled to a refund as described above may petition the Bursar's Office for a refund demonstrating exceptional circumstances.

Information concerning any aspect of the refund of fees may be obtained from the Bursar's Office, Student Services Center, 408-924-1601 or via e-mail at [bursar@sjsu.edu](mailto:bursar@sjsu.edu).

## Parking Permit Refunds

Parking permits can be returned for a prorated refund minus an administrative fee. No returns are accepted during the last month of each semester. More information can be found at the Parking Services website.

## Fees and Debts Owed to the University

Should a student or former student fail to pay a fee or a debt owed to the institution, including tuition and student charges, the institution may "withhold permission to register, to use facilities for which a fee is authorized to be charged, to receive services, materials, food or merchandise or any combination of the above from any person owing a debt" until the debt is paid (see Title 5, California Code of Regulations, Sections 42380 and 42381).

Prospective students who register for courses offered by the university are obligated for the payment of charges and fees associated with registration for those courses. Failure to cancel registration in any course for an academic term prior to the first day of the academic term gives rise to an obligation to pay student charges and fees including any tuition for the reservation of space in the course

The institution may withhold permission to register or other services offered by the institution from anyone owing fees or another debt to the institution. The institution may also report the debt to a credit bureau, offset the amount due against any future state tax refunds due the student, refer the debt to an outside collection agency and/or charge the student actual and reasonable collection costs, including reasonable attorney fees if litigation is necessary, in collecting any amount not paid when due.

The institution may not withhold an official transcript of grades by the institution from anyone owing fees or another debt to the institution (see Title 1.6C.7 (commencing with Section 1788.90) Part 4 of Division 3 of the Civil Code). The institution can still charge a fee for the issuance of the transcript pursuant to their published transcript processing fees.

If a person believes he or she does not owe all or part of an asserted unpaid obligation, that person may contact the Bursar's Office. The Bursar's Office will review all pertinent information provided by the person and available to the campus and will advise the person of its conclusions.

Failure to pay full registration fees when due or to clear any debt by the given deadline may result in an additional Administrative Fee or cancellation of classes.

## Nonresident Students (U.S. and Foreign) Tuition

Nonresident Tuition (in addition to basic tuition fees and other systemwide fees charged all students): \$396 per unit each semester. The total nonresident tuition paid per term will be determined by the number of units taken.

## Exemption from Non-Resident Tuition for Certain Students

If you attended high school in California for at least three full years and graduated or earned an equivalent, you may be eligible for resident tuition. Students must file an affidavit with the CSU campus stating that they have filed an application with USCIS to legalize their immigration status or will do so as soon as they are eligible. You will need to show proof of attendance and graduation.

## Determining Residency for Tuition Purposes

University requirements for establishing residency for tuition purposes are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay University fees on an in-state or out-of-state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residency Requirements. These laws governing residency for tuition purposes at the California State University are California Education Code sections 68000-68086, 68120-68133, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900-41915. This material can be viewed by accessing the California State University's website.

Each campus' Admissions Office is responsible for determining the residency status of all new and returning students based on the Application for Admission, Residency Questionnaire, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residency for tuition purposes requires a combination of physical presence and intent to remain indefinitely in the State of California. An adult who, at least 366 days prior to residency determination date for the term in which resident status is sought, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residency for tuition purposes. A student under the age of 19 by the residency determination date derives residency from the parent(s) with whom the student resides or most recently resided. In addition, non-citizens establish residency in the same manner as citizens, unless precluded by the Immigration and Nationality Act from establishing domicile in the United States.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license, maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or occupying or renting a residence where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68086 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906- 41906.6, 41910. Whether an exception applies to a particular student can only be determined after the submission of an application for admission and, as necessary, additional supporting documentation. Because neither the campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

Residency determination dates are set each term. They are September 20, April 1, and July 1.

CalState TEACH operates on a trimester system. The residency determination dates for CalState TEACH are as follows: Fall - September 20; Spring - January 5; Summer - June 1.

A student classified as a nonresident for a prior term may seek reclassification in any subsequent term; however, reclassification requires that, in addition to satisfying the requirements of physical presence and intent to remain indefinitely in the state, the student must also satisfy the requirement of **financial independence**. A student seeking reclassification is required to complete a Residency Questionnaire that includes questions concerning financial independence. For additional information on intent, physical presence and financial independence requirements, refer to [calstate.edu/residency](http://calstate.edu/residency) website.

1. The decision was based on:
  1. a significant error of fact by the campus;
  2. a significant procedural error by the campus; or
  3. an incorrect application of the law which, if corrected would require that the student be reclassified as a California resident; and/or
2. Significant new information, not previously known or available to the student, became available after the date of the campus decision classifying the student as a nonresident and based on the new information, the classification as a nonresident is incorrect.

Instructions to submit an appeal and additional information can be found at [calstate.edu/residency](http://calstate.edu/residency).

Appeals via email, fax and U.S. mail will not be accepted. A student with a documented disability submitting who is requesting an accommodation to submit an appeal through the Calstate website should contact Student Affairs and Enrollment Management.

The Chancellor's Office will either decide the appeal or send the matter back to the campus for further review. A student incorrectly classified as a resident or incorrectly granted an exception from nonresident tuition is subject to reclassification as a nonresident or withdrawal of the exception and subject to payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student may also be subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations. A student previously classified as a resident or previously granted an exception is required to immediately notify the Admissions Office if the student has reason to believe that the student no longer qualifies as a resident or no longer meets the criteria for an exception.

Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residency for tuition purposes in California between the time this information is published and the relevant residency determination date. Students are urged to review the statutes and regulations stated above.

## Average Support Cost Per Full-Time Equivalent Student and Sources of Funds

The total support cost per full-time equivalent student (FTES) includes the expenditures for current operations, including payments made to students in the form of financial aid, and all fully reimbursed programs contained in state appropriations. The average support cost is determined by dividing the total cost by the number of FTES. The total CSU 2019-20 budget amounts were \$3,982,552,000 from state General Fund (GF) appropriations and before adding \$39.3 million CalPERS retirement adjustment, \$2,499,138,000 from gross tuition revenue, and \$656,748,000 from other fee revenues for a total of \$7,138,439,000. The 2019/20 resident FTES target is 374,131 and the nonresident FTES based on past-year actual is 24,026 for a total of 398,157 FTES. The GF appropriation is applicable to resident students only whereas fee revenues are collected from resident and nonresident students. FTES is determined by dividing the total academic student load (e.g. 15 units per semester) (the figure used here to define a full-time student's academic load).

The 2016/17 average support cost per FTES based on GF appropriation and net tuition fee revenue only is \$13,152 and when including all sources as indicated below is \$14,528, which includes all fee revenue (e.g. tuition fees,



application fees, and other campus mandatory fees) in the CSU Operating Fund. Of this amount, the average net tuition and other fee revenue per FTES is \$5,764.

Average Cost 2019-20	Amount	Average Cost Per FTE Student	Percentage
State Appropriation(GF) *	3,982,552,000	10,645	57.3%
Gross Tuition Revenue**	2,499,138,000	6,277	33.8%
Other Fees Revenue**	656,748,000	1,649	8.9%
Total Support Cost	7,138,439,000	18,571	100%

\*Represents state GF appropriation in the Budget Act of 2019/20; GF is divisible by resident students only (374,131 FTES)

\*\*Represents CSU Operating Fund, gross tuition and other fees revenue amounts (net of tuition fee discounts) submitted in campus August 2019/20 final budgets. Revenues are divisible by resident and nonresident students (398,157 FTES).

The 2019/20 average support cost per FTES based on GF appropriation and net tuition fee revenue only is \$16,922 and when including all three sources as indicated below is \$18,571, which includes all fee revenue (e.g. tuition fees, application fees, and other campus mandatory fees) in the CSU Operating Fund. Of this amount, the average net tuition and other fee revenue per FTES is \$7,926.

The average CSU 2019/20 academic year, resident, undergraduate student basic tuition and other mandatory fees required to apply to, enroll in, or attend the university is \$7,337 (\$5,742 tuition fee plus \$1,595 average campus-based fees). However, the costs paid by individual students will vary depending on campus, program, and whether a student is part-time, full-time, resident, or nonresident.

## Cancellation of Registration or Withdrawal from the University

Students who find it necessary to cancel their registration or to withdraw from all classes after enrolling for any academic term are required to follow the university's official withdrawal procedures. Failure to follow formal university procedures may result in an obligation to pay fees as well as the assignment of failing grades in all courses and the need to apply for readmission before being permitted to enroll in another academic term. Information on canceling registration and withdrawal procedures is available from the Office of the Registrar.

Students who receive financial aid funds must consult with Financial Aid and Scholarships prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. If a recipient of student financial aid funds withdraws from the institution during an academic term or a payment period, the amount of grant or loan assistance received may be subject to return and/or repayment provisions.

For further information, consult [www.sjsu.edu/bursar](http://www.sjsu.edu/bursar) and [www.sjsu.edu/faso](http://www.sjsu.edu/faso).

## Fee Waivers and Exemptions - CSU Systemwide

## The California Education Code provides for the waiver of mandatory systemwide tuition fees as summarized below:

Section 66025.3 -

### Military

Dependent eligible to receive assistance under Article 2 of Chapter 4 of Division 4 of the Military and Veterans Code; child of any veteran of the United States military who has a service-connected disability, has been killed in service, or has died of a service-connected disability, and meets specified income provisions; dependent, or surviving spouse who has not remarried of any member of the California National Guard who, in the line of duty, and while in the active service of the state, was killed, died of a disability resulting from an event that occurred while in the active service of the state, or is permanently disabled as a result of an event that occurred while in the active service of the state; and any undergraduate student who is a recipient of a Medal of Honor, or undergraduate student who is a child of a recipient of a Medal of Honor who is no more than 27 years old, who meets the income restriction and California residency requirement.

### Foster Youth

Current or former foster youth who are 25 years of age or younger; have been in foster care for at least 12 consecutive months after reaching 10 years of age; meet one of the following: is under a current foster care placement order by the juvenile court, was under a foster care placement order by the juvenile court upon reaching 18 years of age, or was adopted, or entered guardianship, from foster care; completes and submits the Free Application for Federal Student Aid (FAFSA); maintains a minimum grade point average and meets the conditions necessary to be in good standing at the campus; and meets the financial need requirements established for Cal Grant A awards. The waiver of mandatory systemwide tuition and fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41 of the California Education Code.

Section 66602 - A qualifying student from the California State University who is appointed by the Governor to serve as Trustee of the California State University for the duration of his or her term of office. Section 68120 - Surviving spouse or child of a deceased resident who was employed by a public agency, or was a contractor or an employee of a contractor, performing services for a public agency, and was killed or died as a result of an industrial injury or illness arising out of and in the course of the performance of his/her principal duties of active law enforcement or active fire suppression and prevention duties (referred to as Alan Pattee Scholarships).

Additionally, a person who qualifies for the waiver under this section as a surviving child of a contractor or of an employee of a contractor, who performed services for a public agency, must have enrolled as an undergraduate student at the California State University and meet the applicable income restriction **requirement with supporting documentation (i.e. his/her income, including the value of parent support, does not exceed the maximum household income and asset level for an applicant for a Cal Grant B award).**

Section 68121 - A qualifying student enrolled in an undergraduate program who is the surviving dependent of any individual killed in the September 11, 2001, terrorist attacks on the World Trade Center in New York City, the Pentagon building in Washington, D.C., or the crash of United Airlines Flight 93 in southwestern Pennsylvania, if the student meets the financial need requirements set forth in Government Code Section 69432.7 for the Cal Grant A Program and either the surviving dependent or the individual killed in the attacks was a resident of California on September 11, 2001.

Section 69000 - A person who has been exonerated, as that term is defined in Section 3007.05(e) of the Penal Code; completes and submits the FAFSA; and meets the financial need requirements established for Cal Grant A awards.

The waiver of mandatory systemwide tuition and fees under this section applies only to a person who is determined to be a resident of California pursuant to Chapter 1 (commencing with Section 68000) of Part 41 of the California Education Code.

Students who may qualify for the above benefits should contact the Admissions/Registrar's Office for further information and/or an eligibility determination.

## The California Education Code provides for the following nonresident tuition exemptions as summarized below:

Section 68075 - A student who is a member of the Armed Forces of the United States stationed in this state, except a member of the Armed Forces assigned for educational purposes to a state-supported institution of higher education, is entitled to resident classification only for the purpose of determining the amount of tuition and fees.

If that member of the Armed Forces of the United States who is in attendance at an institution is thereafter transferred on military orders to a place outside this state where the member continues to serve in the Armed Forces of the United States, he or she shall not lose his or her resident classification so long as he or she remains continuously enrolled at that institution.

Section 68075.7 - A nonresident student is exempt from paying nonresident tuition or any other fee that is exclusively applicable to nonresident students if the student (1) resides in California, (2) meets the definition of "covered individual" as defined in either: (A) Section 3679(c)(2)(A) or (B)(ii)(I) of Title 38 of the United States Code, as that provision read on January 1, 2017 or (B) Section 3679(c)(2)(B)(i) or (ii)(II) of Title 38 of the United States Code, as that provision read on January 1, 2017, and (3) is eligible for education benefits under either the federal Montgomery GI Bill-Active Duty program (30 U.S.C. § 3001 et seq.) or the Post-9/11 GI Bill program (38 U.S.C. § 3301 et seq.) as each read on January 1, 2017.

Section 68122 - A student who is a victim of trafficking, domestic violence, and other serious crimes who has been granted T or U visa status (respectively under Section 1101(a)(15)(T)(i) or (ii), or Section 1101(a)(15)(U)(i) or (ii), of Title 8 of the United States Code) shall be exempt from paying nonresident tuition to the same extent as individuals who are admitted to the United States as refugees under Section 1157 of Title 8 of the United States Code.

Section 68130.5 - A student, other than a nonimmigrant alien (8 U.S.C. § 1101(a)(15)), who is not a resident of California is exempt from paying nonresident tuition if the student meets the requirements of (1) through (4), below:

1. Satisfaction of the requirements of either subparagraph (A) or subparagraph (B):
  1. A total attendance of, or attainment of credits earned while in California equivalent to, three or more years of full-time attendance or attainment of credits at any of the following:
    1. California high schools.
    2. California high schools established by the State Board of Education.
    3. California adult schools established by a county office of education, a unified school district or high school district, or the Department of Corrections and Rehabilitation (subject to the class hours' requirement).
    4. Campuses of the California Community Colleges (subject to the credit requirements).
    5. A combination of those schools set forth in clauses (i) to (iv), inclusive.
  2. Three or more years of full-time high school coursework, and a total of three or more years of attendance in California elementary schools, California secondary schools, or a combination of California elementary and secondary schools.
2. Satisfaction of any of the following:
  1. Graduation from a California high school or attainment of the equivalent thereof.
  2. Attainment of an associate degree from a campus of the California Community Colleges.

3. Fulfillment of the minimum transfer requirements established for the California State University for students transferring from a campus of the California Community Colleges.
3. Registration as an entering student at, or current enrollment at, an accredited institution of higher education in California not earlier than the fall semester or quarter of the 2001-02 academic year.
4. In the case of a person without lawful immigration status, the filing of an affidavit with the institution of higher education stating that the student has filed an application to legalize his or her immigration status, or will file an application as soon as he or she is eligible to do so.

## Nonresident Alien Tax Assessment

International students and scholars receiving payments from San José State University must comply with all federal and state tax reporting responsibilities. The Internal Revenue Service requires that SJSU comply with specific federal tax withholding and reporting regulations when making payments to nonresident aliens. Non-U.S. citizens will be required to complete a Foreign National Information Form to assist in the determination of tax residency and applicable tax withholding liability. Payments affected by these IRS rules include, but are not limited to: compensation, wages, honoraria, consulting fees, scholarships, fellowships, stipends, and some reimbursements for travel and other expenses. Questions regarding nonresident alien tax assessment can be addressed by contacting the Human Resources Service Group at 408-924-2250.

## Dishonored Checks

An individual is not officially enrolled until the university has received full payment of fees. The university has not received payment if personal checks or E-checks are subsequently dishonored by the bank.

Individuals paying registration fees by personal check or E-check are hereby given notice that if their check is dishonored from the bank for any reason, the registration is subject to cancellation. A \$25.00 fee is charged for the first returned check and \$35.00 thereafter. An additional administrative fee may be charged. All dishonored checks must be paid with money order, cashier check or cash.

## Establishment or Abolishment of Campus-Based Mandatory Fees

The law governing the California State University provides that specific campus fees defined as mandatory, such as a student association fee and a student center fee, may be established. A student association fee must be established upon a favorable vote of two-thirds of the students voting in an election held for this purpose (Education Code, Section 89300). The campus president may adjust the student association fee only after the fee adjustment has been approved by a majority of students voting in a referendum established for that purpose. The required fee shall be subject to referendum at any time upon the presentation of a petition to the campus president containing the signatures of 10 percent of the regularly enrolled students at the university. Student association fees support a variety of cultural and recreational programs, childcare centers, and special student support programs. A student center fee may be established only after a fee referendum is held which approves by a two-thirds favorable vote the establishment of the fee (Education Code, Section 89304). Once bonds are issued, authority to set and adjust student center fees is governed by provisions of the State University Revenue Bond Act of 1947, including, but not limited to, Education Code sections 90012, 90027, and 90068.

The process to establish and adjust other campus-based mandatory fees requires consideration by the campus fee advisory committee and a student referendum as established by Executive Order 1102, Section III. The campus president may use alternate consultation mechanisms if he/she determines that a referendum is not the best

mechanism to achieve appropriate and meaningful consultation. Results of the referendum and the fee committee review are advisory to the campus president. The president may adjust campus-based mandatory fees but must request the chancellor to establish a new mandatory fee. The president shall provide to the campus fee advisory committee a report of all campus-based mandatory fees. The campus shall report annually to the chancellor a complete inventory of all campus-based mandatory fees.

For more information or questions, please contact the Budget Office in the CSU Chancellor's Office at 562-951-4560.

## Voluntary

The CSU Board of Trustees established a voluntary student fee, the Student Involvement and Representation Fee (SIRF), which went into effect in the fall 2015 term. This is charged to all students unless they choose to opt out of the fee, which can be done via the student portal. The fee amount is \$2.00 per term. For more information, please visit the California State Student Association (CSSA) website at [www.csustudents.org](http://www.csustudents.org).

## Determining Residency for Tuition Purposes

University requirements for establishing residency for tuition purposes are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay University fees on an in-state or out-of-state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residency Requirements. These laws governing residency for tuition purposes at the California State University are California Education Code sections 68000-68085, 68120-68133, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900-41916.

Each campus' Admissions Office is responsible for determining the residency status of all new and returning students based on the Application for Admission, Residency Questionnaire, Reclassification Request Form, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residency for tuition purposes requires a combination of physical presence and intent to remain indefinitely. An adult who, at least 366 days prior to the residency determination date for the term in which enrollment is contemplated, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residency for tuition purposes. A minor normally derives residency from the parent(s) they reside with or most recently resided with.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license, maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or occupying or renting a residence where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

Nonresident students seeking reclassification are required to complete a supplemental questionnaire that includes questions concerning their financial independence. Financial independence is required, in addition to physical presence and intent, to be eligible for reclassification. Financial independence is established if in the calendar year the reclassification application is made and in any of the three calendar years preceding the reclassification application the student:

- Has not and will not be claimed as an exemption for state and federal tax purposes by his/her parent;

- Has not and will not receive more than seven hundred and fifty dollars (\$750) per year in financial assistance from his/her parent; and
- Has not lived and will not live longer than six (6) weeks in the home of his/her parent.

A nonresident student who has been appointed as a graduate student teaching assistant, a graduate student research assistant, or a graduate student teaching associate on any CSU campus and is employed on a 0.49 or more time basis is exempt from the financial independence requirement.

Exceptions to the general residency requirements are contained in California Education Code sections 68070-68085 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906- 41906.6, 41910 and include, but are not limited to, members of the military and their dependents, certain credentialed employees of school districts and most students who have attended three or more years of high school (grades 9-12) in California and graduated from a California high school or attained the equivalent of graduation. Whether an exception applies to a particular student can only be determined after the submission of an application for admission and, as necessary, additional supporting documentation. Because neither campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

A student classified as a nonresident may appeal a final campus decision within 30 days of notification by the campus. Information on the appeal process may be found at online. A campus residency classification appeal must be submitted via the InfoReady online Residence Appeal Form to the California State University Chancellor's Office.

Appeals via email, fax and U.S. mail will not be accepted. A student with a documented disability that prohibits the student from submitting an appeal through the InfoReady site should contact Student Academic Services:

California State University  
Attn: Student Academic Services  
401 Golden Shore, 6th Floor  
Long Beach, CA 90802-4210  
Email: [residencyappeals@calstate.edu](mailto:residencyappeals@calstate.edu)

The Chancellor's Office will either decide the appeal or send the matter back to the campus for further review. Students incorrectly classified as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is also subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations.

Resident students who become nonresidents or who no longer meet the criteria for an exception must immediately notify the Admissions Office. Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residency for tuition purposes in California between the time this information is published and the relevant residency determination date. Students are urged to review the statutes and regulations stated above.

# Registration

- SJSU ID
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- First Year Course Placement - English and Mathematics/Quantitative Reasoning Supported Instruction
- Writing Skills Test (WST) - Registration Restriction
- CSU Immunization Requirements
- Immigration Requirements for Licensure
- Registration Holds

Make sure you have access to One.SJSU.edu

Make sure your browser (Chrome, Explorer, Firefox or Safari) will be able to access MySJSU.

**For your convenience, computer access locations are available at these campus locations:**

- Clark Hall
- King Library
- Associated Students Computer Lab, Student Union
- Lobby, Student Services Center
- Peer Connections, Student Services Center
- Campus wireless hotspots

# SJSU ID

- Use your SJSUOne login information to sign into MySJSU. Your SJSU ID, also known as your Tower ID, is the number found on the front of your Tower Card.
- Your ID can not be changed.
- New students receive this information from Admissions Office communications.

# Password

- You can set your password for the first time or reset it if you have forgotten it by navigating to One.SJSU.edu and clicking on the Password Help tile.
- When setting or changing your password, pay close attention to the case in which you enter the letters.
- Remember, your password is cASe seNsITIVE!
- If you are having difficulty resetting your password, please contact [itservicedesk@sjsu.edu](mailto:itservicedesk@sjsu.edu) for assistance. Include your full name, SJSU ID if known, your date of birth, and your mailing address.

## What to do if you can't log in

- Contact [itservicedesk@sjsu.edu](mailto:itservicedesk@sjsu.edu) for assistance.

## Appointments and Class Schedule

### Do your research and plan your schedule

Check your enrollment appointment on your MySJSU account by logging on to One.SJSU.edu.

You will not be able to register before your appointment time, but you can enter the system, run MyProgress and MyPlanner, and research course offerings, degree requirements, course prerequisites, etc. You will not be able to register until you clear registration holds (see Registration Holds).

It is your responsibility to monitor your account to see when the appointment time is posted. Note that enrollment appointments are not mailed to students.

### Create a registration worksheet before logging on

Build a sample schedule and have alternate schedules or classes prepared in the event courses are either closed or cancelled. SJSU offers course listings to you in 3 ways:

1. Use MyScheduler to find the schedule options that work for you. You can import your semester plan from MyPlanner to MyScheduler and you can block out times you have work or other commitments.
2. MySJSU class schedule search function: Real-time updates of available courses (open and closed sections, seats remaining).
3. SJSU Catalog: Instructions, policies, procedures and course listings at one URL. Searchable, linked to SJSU Catalog degree templates.
4. Check out the Roadmap for your major requirements and run MyPlanner.

## Course Offerings and Cancelled Classes

The courses listed in the online SJSU Schedule of Classes reflect the scheduled offerings by the departments available at the publication deadline. The online schedule of classes posted at MySJSU provides real time status of classes. Departments have the option, based on enrollment, to cancel and/or add sections or courses.

## Priority Groups



Current work-in-progress is used to determine class level for registration purposes. All priority groups are established per University Policy F17-4

## Group One

### Priority Students

Students who are required by external agencies such as the National Collegiate Athletic Association, or by law, to receive priority. This excludes students covered by SB 412, the California Promise program unless they also fall under another group with required priority registration.

Students whose contributions to the university are recognized as being so extensive that their graduation would be postponed by the amount of time spent on their extracurricular duties.

Students serving on Senate committees that require student participation in order to perform essential functions.

Students who are part of any group that has a contractual agreement with SJSU to provide a full course load. Groups in this category include:

- Accessible Education Center (AEC) students
- AEC note takers
- Associated Students Board of Directors
- Student Fairness Committee Members
- NCAA Athletics
- Guardian Scholars
- Reciprocal Exchange students
- Veterans (as per Cal. Educ. Code 66025.8)
- Students serving on Academic Senate committees that require student participation in order to perform essential functions
- Students who are part of any group that has a contractual agreement with SJSU to provide a full course load
- Appropriately certified students with disabilities

## Group Two

- Graduating seniors (bachelors-level students who have a graduation application on file with an anticipated graduation date for the current or next semester) in the California Promise program
- Remaining graduating students (bachelors- and graduate-level students who have a graduation application on file with an anticipated graduation date for the current or next semester)

## Group Three

- Non-graduating Graduate students based on alphabetical groupings

## Group Four

- Seniors in the California Promise Program
- Non-graduating Seniors based on alphabetical groupings

## Group Five

- Second Baccalaureate students based on alphabetical groupings

## Group Six

- Juniors in the California Promise Program
- All other Juniors based on rotating alphabetical groupings

## Group Seven

- Sophomore and continuing Freshmen in the California Promise Program
- All other Sophomores and continuing Freshmen based on rotating alphabetical groupings

Note: First-Time Frosh registration is completed through Frosh Orientation. Incoming transfer student have a registration date dependent on when they matriculate.

## Adding a Class

- Navigate to One.SJSU.edu
- Enter your SJSU ID and Password to log into MySJSU
- Navigate to Academics > Add a Class
- Select the correct term. If you do not see the desired term, you are not eligible to enroll. New students should contact Admissions. Continuing students should contact the Registrar's Office.

## Choose the class you wish to add.

To search the schedule, click the green "Search Button." Make sure the Course Career is set to Graduate or Undergraduate depending on the class you are searching for. If you find a class you wish to add, click the "Select Class" button to place it in your shopping cart. Please note that classes designated "Department Consent Required" requires a Permission Number (add code).

Alternatively, if you know the class number for the class you wish to add, you can simply type the 5 digit Class Number and click the Enter button.

Either way, once you have chosen a class, a new page called "Class Enrollment Options" will appear. Verify that the course is the one you selected. If required, enter any permission numbers and select any related components if applicable, and click Okay. The Add Classes page will appear, and you will see your classes in your shopping cart.

Warning: you have not yet added your classes.

## Component Classes

If the course has related components attached to it (e.g., lab, seminar), the system will prompt you to select the one you wish to add.

## Department or Instructor Consent

If you received a Class Permission Number, enter it in the available field. Please note that most classes will require a Class Permission Number if you are adding during the Late Registration period, beginning on the first day of instruction.

## Switching Class Sections?

You must drop the section (lecture and labs/seminar, as well, if they have related components or corequisites) before adding the new class section(s).

## Add Additional Classes

If you want to add another class to your add classes list, simply repeat the previous steps.

## Warning: Finish Enrolling

Make sure you complete the process! Once you have added all your classes to your shopping cart, click the green button that says "Proceed to Step 2 of 3." On the next page you will be given the chance to review your enrollment and make sure that it is accurate. Once you have verified your classes, click the green "Finish Enrolling" button to submit your registration.

## Verify Add

Check to make sure you did not receive any errors for the classes you added. If you did, you can see a message explaining why you could not add the class, for example, prerequisites not met, or the class is full. Finally, check your class schedule to make sure all the classes you added appear.

## "Instructor Consent" or "Department Consent"

Should you receive a registration error indicating that "Instructor Consent" is required, you must go to the instructor to obtain the Permission number. To add the course, use the Permission Number with the Class Number for that specific course section, as listed in the course schedule.

"Department Consent" requires students to go to the department that offers the course to obtain the Permission Number. To add the course, use the Permission Number with the Class Number for that specific course section, as listed in the course schedule.

Permission numbers become 'used' only after an enrollment request is successful. To assure a successful enrollment request if you are adding using a permission number, remember the following before clicking the submit button:

## Remember the following before clicking the submit button:

- Check that you have no holds.
- Check that you have met all prerequisites.
- Only enter the enrollment section in the class number section.
- Enter any and all Component Courses (e.g., corequisite labs or seminars) and determine what required course is approved even before trying to "Enroll in the Class."

To enroll if you submitted a number but received an error, re-enter the same permission number after resolving the error.

## Adding Classes on the First Day of Instruction

At the first class meeting, Group 3: Graduating Students (bachelors and graduate level students who have a graduation application on file with an anticipated graduation date for the current or next semester) shall have top priority for any available spaces. Students seeking to add the course should provide documentation showing that they are graduating seniors as defined above.

An impartial procedure (such as a lottery or any other method of random selection) shall be used to choose, from among the graduating seniors, those who will fill the available spaces.

University Policy S93-7

## Adding Classes after the Last Day to Add

Students can submit the Pre-census Late Enrollment petition form to the Registrar's office. This petition is valid through census date per University Policy F09-2.

Likewise, after census date, students can petition for late add using the Post-Census Late Enrollment form. This form replaces the Retroactive add petition form. Petition forms can be found on the Registrar's website.

## Late Fee Assessed

Students registering for classes after the term begins are assessed a late registration fee. Students in the Step to College programs are not required to pay the late registration fee.

Amount Description

\$25.00 Begins the first day of instruction for initial enrollment within the term.

\$45.00 Begins after late registration deadline and before census for any classes added.

\$200.00 Begins after census for any classes added (includes Retroactive Adds - which begins the first day after instructions ends).

## Waitlisting

SJSU has "waitlisting" for all classes. Waitlisting puts you in line to get a space in a closed class, should a space become available before the end of the Advance Registration period.

## Where do I sign up?

You may sign up for waitlist via MySJSU. If a class is full, you may place yourself on a waitlist.

## Waitlist When You Add Classes

- Navigate to 'add classes.'
- At "Step 1, Select classes to add," search for your preferred course.
- If the class is full and the waitlist option is available, you will see the yellow waitlist icon.
- To place yourself on the waitlist, you must click the checkbox next to "Waitlist if class is full."
- You will be returned to Step 1. You must complete the remaining steps of the process to add classes.
- When you finish enrolling in the class, you will see a message indicating that you are on the waitlist and your current position number on the list.
- Monitor your waitlist position by navigating to "My Class Schedule" at MySJSU.

## Feedback

Problems? Questions? Comments? Contact Registrar@sjsu.edu

## Validity

You can add yourself to the waitlist for a class when the class is full until the end of Advance Registration period.

- Waitlists become null and void after this date.
- There is no guarantee you will be moved from the waitlist and be enrolled in the class.
- The waitlist cannot enroll you for a different section of the same class and cannot override a time conflict.
- When classes begin, instructors are not required to add students who were waitlisted for the class.
- Check your schedule regularly at MySJSU to monitor your position on a waitlist.

If you decide you no longer wish to wait for space to become available, as a courtesy to other students, drop yourself from the waitlist.

## Registration Procedures

- All scheduled class sections have waitlists.
- You may place yourself on the waitlist if the class is not already full.
- If you are already enrolled in another section of the same course, you will not be moved from the waitlist if space becomes available unless you drop the section you are enrolled in.
- If there is a time conflict with a class for which you are already enrolled, you will not be moved from the waitlist.
- You must meet any requisites for the class before you can be placed on the waitlist, e.g., course pre-requisites, section co-requisites, major and class level restrictions. See related catalog/course descriptions at MySJSU.
- When you place yourself on a waitlist, you hold a position that changes as students ahead of you get added to the class or drop off the waitlist.

- You may not go over your enrollment limit. For example, if moving into a course from a waitlist exceeds your enrollment limit, you will not be enrolled in the class.
- Waitlists have priority over all general add requests. If students drop from a full class, students from the waitlist will be placed in the class before any student who logs in and requests the class, but is not on the class waitlist.
- If you are moved from the waitlist into the class, you will receive a confirmation message in your MySJSU account.
- As with any class, when you move from the waitlist into a class, it is your responsibility to drop the class if you decide not to attend. Failure to properly drop the class will result in a "WU" grade on your record which will lower your grade point average.
- It is your responsibility to monitor your movement up the waitlist, your enrollment limit, potential time conflicts and any additional fees due.

**For Variable Waitlist Unit Limit process visit the Registrar's website for more information**

#### **How do I move from the waitlist into the class?**

Students are moved from the waitlist into the class if space becomes available, in the order they have been placed on the waitlist and subject to the restrictions described.

Students will be moved from the waitlist and placed into the class if other students drop or are dropped due to non-payment of fees.

## **Registration Issues**

- There is a time conflict with another registered class: compare the exact time of the classes for which you have registered--even a 15 minute overlap will prevent you from moving from the waitlist into the class. Since potential time conflicts are not checked when you place yourself on a waitlist, it is your responsibility to make sure that waitlisted classes do not conflict with your enrolled schedule.
- You are already enrolled in another section of the same course: you will not be moved from the waitlist if space becomes available unless you drop the section you are enrolled in.
- If you are repeating the course: you will not be moved into the class. Instructors will have the discretion to allow you to register for the class with a permission number during Late Registration--the first day of instruction through the last day to add.
- For a course with components: you can waitlist in any section, but you must select all desired sections (lecture, lab and seminar). Space must open in all sections for you to be added to the class.
- You will not be enrolled from the waitlist if a hold is placed on your record after you sign on to the waitlist. If--for any of the reasons given above--you cannot be moved from the waitlist, you will be skipped over and the next student considered. You will not be reconsidered until the next time space becomes available in the class.

## **Registration Billing**

- You may be added into waitlisted classes at any time which might incur additional charges. It is important to check your class schedule and amount due daily to avoid possible cancellation of all your classes for failure to pay your fees in full by your payment due date.

## **Class Notes**

Note Number	Description
01	CA - Students must register for one section of each activity listed.
02	CB - Students must register in an entire block of courses. Contact department office.
04	CD - Compressed session.
06	FB - Additional fees and/or materials required. Contact department office.
07	IA - For more information contact College of Professional and Global Education at 408-924-2670.
09	IC - See course description for requirements.
10	ID - See department for advisement, prerequisites, and/or course requirements.
11	IE - Consult degree for major requirements.
12	IF - Contact department for dates, times or place of class meeting.
13	IG - Students must also register in a lab section.
14	IH - Meets pre-professional experience requirement for teacher education programs.
15	II - See comment section which appears under the department name.
16	IJ - Contact instructor for meeting dates.
17	IK - Additional hours required.
18	IL - Does not meet full semester.
19	IM - Required field trips (may include weekends).
20	LA - Class meets at off-campus location, students must arrange own transportation.
32	LN - Class meets at off-campus location.
34	PA - Prereq - Sophomore, junior or senior standing.
35	PB - Prereq - Upper division standing.
36	PC - Prereq - Graduate student status.
37	PD - Prereq - Senior standing.
38	PE - Prereq - Graduating senior status. Must show proof of application for graduation.

- 40 PG - Prereq - Placement test. See Testing Section in the SJSU Academic Catalog Policies and Procedures.
- 42 PI - Prereq - Precalculus Proficiency Assessment. See Testing Section.
- 46 PN - Prereq - ENGL 1A.
- 47 PO - Prereq - ENGL 1A and ENGL 1B.
- 48 PP - Prereq - Written Communication II (100W) or equivalent.
- 52 PU - At first class meeting students must furnish proof of completion of prerequisites.
- 53 PV - Prerequisite courses required. See course description.
- 54 PW - Prerequisites, skills or materials are required. Consult the course description or contact department office.
- 57 PZ - Prereq - Passage of WST, Upper Division standing and completion of CORE GE. Consult Catalog Policies. If you met requirements at another institution, provide transcript to Student Services Center.
- 58 P1 - Prereq - 100W.
- 59 RA - Requires consent of instructor.
- 60 RB - Requires Consent of graduate or undergraduate advisor.
- 61 RC - Requires department release of permission number.
- 62 RD - Requires department approval.
- 63 RE - Requires negotiated agreements or contracts. Consult department.
- 64 RF - Restricted class level. Consult department before enrolling.
- 66 RH - Honors course. Requires department approval.
- 67 RI - Not open to students majoring in this discipline.
- 68 RJ - Restricted to certain majors. Others permitted during add/drop on space available basis.
- 69 RK - Restricted to certain majors. Contact department office for information.
- 70 RL - Open to non majors.
- 71 RM - Disabled students only.
- 73 RO - Not available to Open University students.
- 74 RP - Prerequisites must be completed with grades of "B" or better.
- 75 RQ - Prerequisites must be completed with grades of "C" or better.



77 RS - Restricted to majors in this department. Contact department for more information.

96 IN - Multiple GE areas are met by completion of this course; See General Education section.

106 Per CSU, ten seats have been reserved for the Course Match program. Any unused reserved seats will be released before the semester begins.

107 Safety Equipment - Students must bring safety goggles and hearing protection to every class.

108 Certification Required - Requires completion of Flight Certification; See Advisor.

109 Online Only-TBA Mtg Pat- Class is offered Completely Online with NO designated day/time meeting Pattern (TBA). This course may utilize the Learning Management System

Online Only- W/Mtg Pattern- Class is offered Online with designated day/time meeting pattern, but no location.  
110 This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

Class is offered with No designated day/time meeting pattern (TBA) with occasional on-campus meetings. This  
111 course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

Online-Mtg Pat w/Few Cmps Mtg- Class is offered Online with designated day/time meeting pattern, no location  
112 and with occasional on-campus meetings. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

2Pat-Mtg Pat &TBA-See Classnotes- Class is offered with 2 Meeting Patterns: One meeting pattern is in person  
113 with a designated day/time and location. The other meeting pattern has NO designated day/time or location (TBA). This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

2Pat-Mtg & OLPat-see Classnotes- Class is offered with 2 meeting patterns: One meeting pattern is in person  
114 with designated day/time and location. The other meeting pattern has a designated day/time, no location. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

Online Only-2Pat-See Classnotes- Class is offered Completely Online with 2 meeting patterns: One meeting  
116 pattern has NO designated day/time (TBA) and the other meeting pattern has a designated day/time, no location. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

Online-2Pat-See Classnotes- Class is offered Online with 2 meeting patterns: One meeting pattern has  
117 designated day/time and the other meeting pattern has no designated day/time (TBA). Both meeting patterns have occasional on-campus meetings. This course may utilize the Learning Management System (LMS), Canvas. Please check with your instructor. General information about the LMS can be found at the eCampus website

118 Permission Numbers - Permission Numbers (add codes) will be given the First Day of Instruction.

## Dropping a Class

## Go to MySJSU

- Enter your SJSU ID and Password
- If you drop a class, you must do so prior to the time you submit payment to ensure that your registration fees are properly assessed.

## Navigate to "Self Service" > Student center > Drop a class"

- Click on "Drop Classes"
- Click the checkbox next to each class you wish to drop and click "Drop Selected Classes."
- Review your selection and click "Finish Dropping."
- It is the student's responsibility to make sure classes are dropped.

## Dropping Without Penalty

Courses may be added during the first fourteen days of classes. Courses may be dropped without academic penalty during the first nine days of classes. See the Calendar section for exact dates and deadlines. Courses dropped during this initial period will not appear on the student's transcript. With instructor consent, students may late add a class up to one week later. Please view the pro-rata refund schedule for the appropriate semester.

## Dropping Classes After Drop Deadline

### Dropping Classes After the Fourteenth Day of Instruction

Students may petition to late or retroactively drop a course or withdraw from an entire semester of courses for serious and compelling reasons after the drop deadline. Check the official academic calendar to verify the date.

Conditions and circumstances are defined as "serious and compelling" only if beyond the student's control. Those acceptable as justifications for a late drop must have occurred after the drop deadline. A personal statement with supporting documentation must be submitted with the late and retroactive drop and withdrawal forms.

Undergraduates may download the appropriate petition (course drop or withdrawal from all courses). Graduate students may download the appropriate petition.

Submission of these forms, even with an instructor's signature, does not constitute approval. Continue attending class and complete all assignments until the petition is approved or denied.

## Instructor Drops

Instructors are permitted to drop a student who fails to establish a committed presence in the class. "Establishing a committed presence" is defined in University Policy F15-3 as the following options for the student:

1. In-person classes. Attending the first class meeting or informing the instructor of the intention to continue in the class before 48 hours after the first official class meeting.

2. Online classes. Logging on to the LMS class shell on the first scheduled day of the class or informing the instructor of the intention to continue in the class before 48 hours after the official class start date.

Some instructors will drop students who do not meet the stated course prerequisites. However, they are not required to do so. It is the student's responsibility to make sure classes are dropped.

Detailed information for instructors is available for download.

## Late Drop Petitions

Students may petition to Late Drop for serious and compelling reasons after the drop deadline. To verify the official dates, see Calendar for links to the official academic calendar. Petitions are available at AARS for undergraduates and GAPE for graduate students.

Conditions and circumstances are defined as 'serious and compelling' and are considered beyond the student's control, and which occurred after the drop deadline.

A personal statement submitted without supporting documentation is not acceptable. Acceptable documentation includes:

### **Personal health or serious family illness**

Serious health reasons out of your control (e.g. personal health, serious family illness or assigned caretaker). Attach the Healthcare Provider Form.

### **Military (orders from CO)**

Submit military assignment papers.

### **Divorce**

Divorce papers or certification of pending divorce.

### **Natural Disaster: (e.g. fire, earthquake)**

Submit verifiable documentation.

### **Employment**

Letter from employer, on letterhead indicating reason(s) for work schedule circumstances conflicting with the class requested to drop and date of change in schedule.

### **Personal/Other (rarely approved)**

Submit verifiable and appropriate documentation other than student's statement.

### **Administrative Error**

University documentation from appropriate departments. Students must understand that their personal letter alone will not suffice as verifiable documentation.

Late drops are to be submitted to the counter of Academic Advising and Retention Services in the Student Services Center or using the DocuSign petition.

Neither an instructor's signature nor submission of a Late Drop petition constitutes approval. Continue attending class and complete all assignments until you are notified via MySJSU message that the petition has been approved or denied.

## Academic Renewal

Graduating seniors with a grade point average (GPA) below 2.0 in the major, minor, SJSU, or overall college coursework, may request that all grades earned in a previous semester (or two semesters) be disregarded, to permit graduation. If the petition is approved, all grades and units earned during the semester will be disregarded when calculating GPAs for graduation, but the courses and grades will still appear on the transcript.

**All of the following conditions must be met:**

- You must have applied for graduation and be ready to graduate.
- You must have a GPA below 2.0 in a category required for graduation (major, minor, overall, SJSU)
- At least 5 years must have elapsed since the semester you want to disregard.
- You must have at least a 3.0 GPA in your most recent 15 units at SJSU, or 2.5 in the past 30 units, or 2.0 in the past 45 units.
- No courses or units earned during the semester you want to disregard may be counted toward graduation.
- You must document extenuating circumstances associated with the semester you want disregarded and show that your performance is not representative of your ability.

Apply for Academic Renewal (formerly known as 'Disregard of Previous Semester's Work').

## Cancellation of Registration or Withdrawal From the Institution

Students who find it necessary to cancel their registration or to withdraw from all classes after enrolling for any academic term are required to follow the university's official withdrawal procedures. Failure to follow formal university procedures may result in an obligation to pay fees as well as the assignment of failing grades in all courses and the need to apply for readmission before being permitted to enroll in another academic term. Information on canceling registration and withdrawal procedures is available from Academic Advising and Retention Services (AARS) at 408-924-2129.

Students who receive financial aid funds must consult with the Financial Aid office prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. Students who have received financial aid and withdraw from the institution during the academic term or payment period may need to return or repay some or all of the funds received, which may result in a debt owed to the institution.

Please contact the Office of the Registrar at 408-924-5680 for more information

## Restrictions

### Graduate students

Cannot enroll in lower division classes during Advance Registration. Lower division classes will need to be starting on the first day of instruction for the term.

## **Matriculated SJSU students cannot concurrently enroll in Open University.**

Matriculated students are those who have been admitted to SJSU as regular students for the current semester or were registered as matriculated students in at least one of the two previous semesters and did not graduate. This policy does not apply to disqualified students.

## **Students returning after an absence:**

After an absence of more than one semester (without a formal leave of absence), students must reapply for admission before access to registration is granted.

## **Maximum Unit Load:**

During the Advance Registration period a cap is placed on the maximum number of units that students can enroll in. After a specified date the cap is raised. Students wishing to enroll in excess units must submit a petition to the Registrar's Office. Please check the Office of the Registrar for more information.

## **Repeating a Class**

In accordance with University Policy, F08-2, any matriculated student who is repeating a course for the first time shall be allowed to register for the course during the Advance Registration period no earlier than approximately three weeks prior to the start of the semester. Students who have received a grade of "W" will be treated as a first-time registrant for a course. Students who are repeating a class for two or more times shall submit a completed petition to the Registrar's Office by 1) DocuSign - preferred & most secure method; 2) Use your SJSU e-mail to send form(s) to registrar@sjsu.edu; 3) Overnight drop box by Student Services Center entrance or 4) USPS mail. The petition form is available online at the Registrar's forms website.

## **Returning After an Absence**

If you are in good standing and you were not disenrolled for non-payment of fees and you choose not to enroll or "stop out" for one semester, there is no need to reapply for admission. However, in order to maintain your matriculation at SJSU, you must enroll in classes the semester immediately following the one semester you stopped out. Some examples:

- You attended a spring term, earned grades and you are still in good standing. You do not enroll in the fall term, but return to take classes in the following spring. You do not need to reapply for admission.

### **When you must reapply for admission**

- You attended a fall term, earned grades and are in good standing. You do not enroll in the next spring or fall terms. You must reapply for admission.
- If you take a full year off from school--you must reapply for admission. Consider alternatives: read the "leave of absence" section.

- You do not enroll in classes in your initial admission term and wish to attend a subsequent term. You must reapply for admission.

#### **How to reapply for admission**

Complete the online application at Cal State Apply.

If you intend to stop out for one semester but decide to extend your absence, you may not request a leave of absence.

If you return to SJSU after an absence of more than one semester you must reapply for admission before access to registration is granted. Note that a summer term is not included in this policy.

## **First Year Course Placement - English and Mathematics/Quantitative Reasoning Supported Instruction**

- Students required to participate in Supported Instruction in Math and/or English may be restricted from enrolling in certain classes for which they do not meet prerequisites. Visit Supported Instruction for more details.
- Students required to participate in Supported Instruction in Math and/or English are required to enroll in an appropriate Math and/or English class during their first year and each successive term until those classes are completed with a grade of at least C-.
- All entering SJSU frosh assigned to enrollment category W-II or W-III must enroll in their A2 course(s) during their first academic year. All entering SJSU frosh assigned to enrollment category M-II or M-III must enroll in their B4 course(s) during their first academic year (Spring admits choosing either Stretch English or Statway, both of which start only in Fall semesters, may extend their enrollment start date to their first Fall semester.)
- Entering SJSU frosh assigned to enrollment category W-IV must enroll in their appropriate A2 course(s) in Fall of their first academic year. Entering SJSU frosh assigned to enrollment category M-IV must enroll in their appropriate B4 course(s) in Fall of their first academic year. (Spring admits choosing either Stretch English or Statway, both of which start only in Fall semesters, may extend their enrollment start date to their first Fall semester.)
- Students required to participate in Supported Instruction in Math and/or English who do not enroll or who drop out of the appropriate class(es) during any registration period for fall or spring terms without consultation with the specified advisor in Academic Advising and Retention Services may be subject to having all courses dropped. If this occurs, students must re-register for courses with no guarantee that classes in which they were previously enrolled will be available.
- Entering SJSU frosh who have not completed A2 or B4 within a year of first registration will be placed on Administrative Academic Probation. Entering SJSU frosh who have not completed A2 or B4 within two years of first registration will be administratively academically disqualified.

## **Writing Skills Test (WST) - Registration Restriction**

The WST requirement has been temporarily suspended. See Temporary WST Policy for a self directed placement exercise to help you determine whether to take 100A or 100W.

- Are you planning on taking an SJSU Studies General Education course?
- Are you planning on taking a 100W course outside of your major?

You must satisfy the WST requirement in order to register for any SJSU Studies (Area R, S, V, and Z) course. This is true even if you want to take the class for a major requirement, instead of GE. If you have not yet taken the WST, plan to take it as soon as possible. Check the [General Education Requirements Overview](#) for an explanation.

SJSU offers courses (LLD 100A and ENGL 100A) that satisfy the WST requirement, if completed with a grade of "C" or better.

There are designated 100W classes for most degree programs. Clear any substitutions with your major advisor before attempting to register for a 100W class that is included in your major's required courses.

## CSU Immunization Requirements

Entering CSU students are required to present proof of the following immunizations to the CSU campus they will be attending before the beginning of their first term of enrollment.

Measles, Mumps, and Rubella (MMR): Two (2) doses with first dose on or after 1st birthday; OR positive titer (laboratory evidence of immunity to disease).

Hepatitis B (Hep B): All new students who will be 18 years of age or younger at the start of their first term at a CSU campus must provide proof of full immunization against Hepatitis B before enrolling. Full immunization against Hepatitis B consists of three timed doses of vaccine over a minimum 4 to 6 months' period. If you need further details, please consult the Student Health Center.

Varicella (Chickenpox): Two (2) doses with first dose on or after 1st birthday; OR positive titer (laboratory evidence of immunity to disease) prior to enrollment.

Tetanus, Diphtheria, Pertussis (Tdap): One (1) dose after age 7.

Meningococcal conjugate (Serogroups A, C, Y, & W-135): One (1) dose on or after 16 for all students and age 21 or younger.

Tuberculosis Screening/Risk Assessment: All incoming students must complete a Tuberculosis risk questionnaire. Incoming students who are at higher risk\* for TB infection, as indicated by answering "yes" to any of the screening questions, should undergo either skin or blood testing for TB infection within one year of CSU entry.

*\*Higher risk include travel or living in South or Central America, Africa, Asia, Eastern Europe, and the Middle East; prior positive TB test; or exposure to someone with active TB disease.*

Conditions of Enrollment: Providing proof of the indicated immunizations (or immunity) is a condition of enrollment in the CSU. Students need to obtain immunizations (or proof of immunity) and upload their documentation online BEFORE their first term on campus. Contact Student Health Center for more information.

The above are not admission requirements, but are required of students as conditions of enrollment in CSU.

## Immigration Requirements for Licensure

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193), also known as the Welfare Reform Act, includes provisions to eliminate eligibility for federal and state public benefits for certain categories of lawful immigrants as well as benefits for all illegal immigrants.

Students who will require a professional or commercial license provided by a local, state, or federal government agency in order to engage in an occupation for which the CSU may be training them must meet the immigration requirements of the Personal Responsibility and Work Opportunity Reconciliation Act to achieve licensure. Information concerning the regulation these requirements are available from the Registrar's Office, Student Services Center.

## Registration Holds

Students should periodically check for holds at MySJSU (which can be accessed through the One.SJSU.edu portal). Follow the instructions on how to clear them.

Holds on student accounts and records will prevent students from registering. Students should periodically check for holds at MySJSU. Follow the instructions on how to clear them. Monetary holds of \$50.00 or more will block you from registration, obtaining official transcripts, diplomas and other miscellaneous services

## College of Engineering Advising

All College of Engineering undergraduates must see an advisor every semester, prior to registration. Graduate Engineering students (except Civil and Environmental Engineering, Computer Engineering, General Engineering, and Industrial Systems Engineering) must also see a major advisor prior to enrolling every semester.

## College of Science Advising

All undergraduate College of Science majors and graduate students in Chemistry, Computer Science and Physics must see a major advisor prior to registering every semester.

## AARS Advising Hold

All Undeclared and Undeclared-PreNursing students are required to see an advisor in Academic Advising and Retention Services (AARS) prior to registering every semester.

## Financial Holds

Do you have a balance due on your student account? If so, you will not be able to register until the debt has been paid. Be aware - balances can fluctuate on your student account depending on activity. Clear up any balance as soon as possible by paying your outstanding balance using the Pay Now option at MySJSU (which can be accessed through the One.SJSU.edu portal) after the log-in under Self Service. Remember, payments are applied to the oldest balance first. Keep your account current by paying all charges by the assigned due date.

## Online Title IX Training Hold

All incoming students (undergraduate and graduate) are expected to complete online title IX training course addressing sexual assault prevention. A hold (HW1) will be placed if course is not completed. Questions? Email [titleixeducation@sjsu.edu](mailto:titleixeducation@sjsu.edu)



## AlcoholEdu Hold

All incoming undergraduates are expected to complete AlcoholEdu, an online training course addressing alcohol abuse prevention. A hold (HW2) will be placed if the course is not completed. Questions? Email [titlexeducation@sjsu.edu](mailto:titlexeducation@sjsu.edu)

## Hepatitis B Immunization Series

- Are you a first time SJSU student?
- Will you be 18 years or younger on the first day of instruction?

If the answer to both of these questions is yes, you may be required to submit proof of full immunization or immunity against Hepatitis B.

For further details please visit Student Health Center.

## International Student Health Insurance

Proof of health insurance is required prior to registration each semester. For questions about this hold, please call International Student and Scholar Services (ISSS) (408) 924-5920.

## Measles and Rubella

- Are you a new or readmitted SJSU student?
- Were you born on or after January 1, 1957?

If the answer to both of these questions is yes, you may be required to submit proof of full immunization or immunity against Measles and Rubella. For further details please visit Student Health Center.

## Missing Document Holds

If you owe documents or transcripts to the Undergraduate Admissions office, please submit by the deadline posted in your MySJSU account. You must submit final, official transcripts or official documents as instructed in your MySJSU "to do" items before you are allowed to register.

## Probation Holds

- Is your SJSU cumulative grade point average below 2.00 for undergraduates (3.00 for graduate students)?
- Are you on a reinstated status on probation?

For undergraduates, if the answer is yes, you must see your major advisor or an Academic Advising and Retention Services advisor before you can register. This will happen each term until you are no longer on probation.

## Graduation Registration Restriction

Students who have not taken the WST by the time they earn 75 units (counting no more than 70 transfer units) may have their registration held after being notified of the need to test. (The WST hold will not be in force while the temporary suspension is in force. See Temporary WST Policy for more information.) Students with 120 or more units who have not applied for graduation will not be allowed to register until they have submitted that application. Students with 150 or more units may be required to meet with an advisor in Academic Advising and Retention Services before registration and may have their registration for remaining requirements managed. Students who have changed their graduation date multiple times or who are otherwise in potential violation of Presidential Directive 2009-05 may be required to meet with an AARS advisor.

## Records Holds

SJSU has the authority to withhold permission to register, receive services, materials, food or merchandise, or any combination of these, from any person owing a debt to the university. A debt is defined as an unpaid obligation of a student or former student, however incurred, arising while the debtor was a student. For students who have been recipients of Federal Perkins Loan funds, SJSU has the authority to withhold certain services for failure to complete a Perkins Exit Interview upon departure from SJSU.

A Record Hold is a method of implementing these restrictions or for a past due amount of the Federal Perkins Loan.

An automatic financial hold will be placed against the student's records whenever a student has a past due balance with the University.

**Services that may be held include, but are not limited to:**

- Registration
- Grades
- Diploma
- Transcripts

When all due debts are cleared, the financial hold will be removed.

## Alternative Enrollment Programs

- e-Learning
- Intrasystem and Intersystem Enrollment Programs
- Step-to-College/Unitrack
- Open University
- Summer Session
- Winter Session
- Professional Degree Programs Offered Through Special Session
- Registration Fees, Payments and Refunds

## e-Learning

San José State University delivers distance education courses via Web-based learning management systems and resources. These courses are offered by individual departments in regular and special sessions.

## Intrasystem and Intersystem Enrollment Programs

Students enrolled at any CSU campus will have access to courses at other CSU campuses on a space available basis unless those campuses/programs are impacted or desired programs/admission categories. This access is offered without students being required to be admitted formally to the host campus and sometimes without paying additional fees. Although courses taken on any CSU campus will transfer to the student's home CSU campus as elective credit, students should consult their home campus academic advisors to determine how such courses may apply to their specific degree programs before enrolling at the host campus.

There are a few programs for enrollment within the CSU and one for enrollment between CSU and the University of California or California Community Colleges. Additional information about these programs is available from the Registrar's Office.

## CSU Concurrent Enrollment

Matriculated students in good standing may enroll on a space available basis at both their home CSU campus and a host CSU campus during the same term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus. Many online courses at CSU campus are available for concurrent enrollment.

## CSU Fully Online Courses

Matriculated students in good standing may request enrollment in one course per term, offered by a CSU host campus. Enrollment requests will be granted based on available space, as well as completion of any stated pre-requisites. Credit earned at the host campus is electronically reported to the student's home campus to be included on the student's transcript at the home campus.

## CSU Visitor Enrollment

Matriculated students in good standing enrolled at one CSU campus may enroll on a space available basis at another CSU campus for one term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus.

## Cross Enrollment at Other CSU, UC or CCC Campuses

Matriculated CSU, UC, or community college undergraduate students may enroll on a space available basis for one course per term at another CSU, UC, or community college and request that a transcript of record be sent to the home campus. This program is not available to graduate students.

## Step-to-College/Unitrack

SJSU sponsors a low-cost concurrent enrollment program for area high school students through the Step-to-College program. Students must have permission from their school principal and meet all SJSU course prerequisites, including placement exams. Applications and more information are available at the Registrar's Office.

### Office of the Registrar

Student Services Center  
408-924-2062  
registrar@sjsu.edu

## Open University

Open University is not available to matriculated students.

Open University allows students to earn degree units from SJSU or to take noncredit or Continuing Education Unit programs.

- Fall schedule available online in July.
- Spring schedule available online in December.

### College of Professional and Global Education (CPGE)

(Formerly College of International and Extended Studies)  
Student Union  
408-924-2670  
www.sjsu.edu/openuniversity  
cpge@sjsu.edu

## Summer Session

Summer Session offers both matriculated and non-matriculated students the opportunity to enroll in summer classes at San José State University. The program offers hundreds of courses to choose from across three sessions. Schedule policy, procedures and course information are available in April.

**College of Professional and Global Education (CPGE)**

(Formerly College of International and Extended Studies)  
Student Union  
408-924-2670  
[www.sjsu.edu/summer](http://www.sjsu.edu/summer)  
[cpge@sjsu.edu](mailto:cpge@sjsu.edu)

## Winter Session

Winter Session offers both matriculated and non-matriculated students the opportunity to earn three units in three weeks during SJSU's winter intersession. The program allows students to complete graduation requirements, enroll in highly sought after classes, and advance towards their degree.

**College of Professional and Global Education (CPGE)**

(Formerly College of International and Extended Studies)  
Student Union  
408-924-2670  
[www.sjsu.edu/winter](http://www.sjsu.edu/winter)  
[cpge@sjsu.edu](mailto:cpge@sjsu.edu)

## Professional Degree Programs Offered Through Special Session

Professional degree programs offered through Special Session, offer unique opportunities to both traditional students and working professionals to earn graduate degrees and certificates on an alternate/flexible schedule, often online and/or off campus.

**College of Professional and Global Education (CPGE)**

(Formerly College of International and Extended Studies)  
Student Union  
408-924-2670  
[www.sjsu.edu/pdp](http://www.sjsu.edu/pdp)  
[cpge@sjsu.edu](mailto:cpge@sjsu.edu)

## Registration Fees, Payments and Refunds

### Caution!

- Fees are subject to change without notice.

- You are responsible for keeping your MySJSU (which can be accessed through the One.SJSU.edu portal) account current.
- If a check or e-check is dishonored by the bank for any reason, including keying errors for e-checks, your registration is subject to cancellation.
- Any delinquent outstanding charges owed to the university will be submitted to the Franchise Tax Board for tax refund offset.

All payments apply to the oldest balance on your account. For example, if you are making a registration payment and you have a housing balance with an earlier due date, the payment will apply to the housing charges first. Keep your account current to avoid the possibility of enrollment cancellation.

When you register, your MySJSU will show the balance due and due date. Fees are payable by the due date(s) and must be posted to your account before or on the due date to avoid enrollment cancellation. Please see acceptable methods of payment and payment plan options on the Bursar's Office website.

Failure to pay fees by the due date will result in enrollment cancellation and all classes will be dropped. Note: Classes are not automatically dropped after census. Students wishing to partially drop or withdraw from all classes must do so by following the university policies and procedures.

### **General Information, Refunds**

Bursar's Office  
Student Services Center  
408-924-1601  
[www.sjsu.edu/bursar](http://www.sjsu.edu/bursar)

### **Residence Status**

Enrollment Services  
Student Services Center  
408-283-7500

### **Financial Aid Awards**

Financial Aid and Scholarship Office  
Student Services Center  
408-283-7500

# Calendar

*Disclaimer: In light of the recent events related to COVID-19, information on this page is subjective to change.*

## 2020-2021 Academic Year

**Academic Year** August 17, 2020 to May 28, 2021

**Fall Semester** August 19, 2020 to December 18, 2020

**Spring Semester** January 25, 2021 to May 28, 2021

Event	Fall 2020	Spring 2021
First Day of Instruction	August 19, 2020	January 27, 2021
Enrollment Census Date	September 16, 2020	February 23, 2021
Last Day of Instruction	December 7, 2020	May 17, 2021

Printable Academic Year Calendars, including past calendars, are available at Office of the Provost's site.

For deadlines regarding **registration, fees, exams, housing, new students, graduate students, grades, and academic standing**, visit the Class Schedules Calendar.

## Holidays / No Classes

Event	Type	Date
Independence Day	Campus Closed	July 3, 2020
Labor Day	Campus Closed	September 7, 2020
Veteran's Day	Campus Closed	November 11, 2020
Non-Instructional Holiday	No Classes	November 25, 2020
Thanksgiving Holiday	Campus Closed	November 26, 2020 - November 27, 2020
Fall 2020 Study/Conf. Day	No Classes or Exams	December 8, 2020
Winter Break	Campus Closed	December 25, 2020 - January 1, 2021
New Year's Day	Campus Closed	January 1, 2021
Dr. Martin Luther King, Jr. Day	Campus Closed	January 18, 2021



Cesar Chavez Day	Campus Closed	March 31, 2021
Spring Recess	No Classes	March 29, 2021 - April 2, 2021
Spring 2021 Study/Conf. Day	No Classes or Exams	May 18, 2021
Memorial Day	Campus Closed	May 31, 2021

## Final Examination Policy

- Time Frame for Culminating Activities
- Exceptions to Time Frame for Culminating Activities
- Circumstances in which students may request the rescheduling of a culminating activity
- Oversight of Culminating Activities

In accordance with University Policy S17-1, faculty members are required to have a culminating activity for their courses, which can include a final examination, a final research paper or project, a final creative work or performance, a final portfolio of work, or other appropriate assignment. Supervision, Internship and individual study courses are not required to have a culminating activity. Visit the Class Schedules Calendar for a detail listing of the latest term's final exam schedule.

### Time Frame for Culminating Activities:

In the case where there is to be a timed, sit down final examination or an online synchronous final, it must occur during the scheduled final examination time for that course. The required submission date and time for take-home examinations, final papers or other culminating activities must fall no earlier than the beginning of the scheduled final examination time for the course. Online asynchronous final exams are to be treated like take-home exams. Final exams shall not be given, nor culminating activities due, during regularly scheduled class periods or on "Study/Conference Day." Supervision, Internship and individual study courses are not required to have a culminating activity.

### Exceptions to Time Frame for Culminating Activities:

Exceptions for the above time frame are justified in the following circumstances:

- Performance courses in which it is impractical to examine each student individually in the time period assigned for final examinations; e.g. performance courses in theater arts, music, or athletics.
- Other such circumstances as approved by the chair with notification and rationale to be provided to the dean.

### Circumstances in which students may request the rescheduling of a culminating activity:

1. A student may request the rescheduling of a culminating activity if there is a verifiable emergency.
2. A student may request the rescheduling of a culminating activity if three or more are scheduled/due within a 24-hour period. Requests must be made at least three weeks prior to the last class meeting of the semester.
  - If one of the three or more culminating activities scheduled for the same day is a paper or project, the deadline for the paper/project will be moved to a mutually agreeable time within the final examination period.
  - If three or more finals are scheduled on the same day, the student may request an alternative exam date and/or time from any one of the instructors.
  - Final exam makeup day may be used for rescheduled exams.

3. Regarding a and b above: if a student and instructor are unable to reach agreement on rescheduling, the chair will first be consulted. If no agreement can be found through the department chair, the dean (or designee) will be consulted.
4. Graduate students should refer to section on Master's Examinations - Finals.

## Oversight of Culminating Activities

The department chairperson will oversee culminating activities (examinations; portfolios; research or creative projects) in a manner that assures that the rules for culminating activities are followed. If a dispute arises, the dean (or designee) will be consulted.

## Undergraduate Admissions

- CSU Application Procedures and Policies for Undergraduate
- Impacted Programs
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- Step to College/Unitrack - High School Students
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## CSU Application Procedures and Policies for Undergraduate

Requirements for admission to San José State University are in accordance with Title 5, Chapter 1, Subchapter 3, of the California Code of Regulations.

All CSU applications must be submitted online at Cal State Apply. An acknowledgement will be sent to the applicant when the online application has been submitted.

## Importance of Filing Complete, Accurate, and Authentic Application Documents

San José State University advises prospective students that they must supply complete and accurate information on the application for admission, residency questionnaire, and financial aid forms. Further, applicants must, when requested, submit authentic and official transcripts of all previous academic work attempted. Failure to file complete, accurate, and authentic application documents may result in denial of admission, cancellation of registration or academic credit, suspension, or expulsion (Section 41301, Article 1.1, Title 5, California Code of Regulations).

Prospective students applying for part-time or full-time undergraduate programs of study must submit a completed undergraduate application. The \$70 nonrefundable application fee should be paid online at the time of application via credit card, e-check, or PayPal and may not be transferred or used to apply to another term. An alternate major may be requested on the application if desired from the campus. The applications of persons denied admission to an impacted and/or closed campus may be redirected to another campus at no cost, but only if the applicant is CSU eligible. Upper Division Transfer applicants are required to complete a supplemental application to be considered for admission. More information can be found at SJSU Admissions.

## Impacted Programs

The CSU designates programs as impacted when more applications from CSU regularly eligible students are received in the initial filing period (October and November for fall terms and August for spring terms) than can be accommodated. Some programs are impacted at every campus where they are offered; others are impacted only at a few campuses. Candidates for admission must meet supplementary admission criteria if applying to an impacted program.

The CSU will announce during the fall filing period those campuses or programs that are impacted. Detailed information on campus and programs impactation will be available online.

Campuses will communicate supplementary admission criteria for all impacted programs to high schools and community colleges in their application service area and will disseminate this information to the public through appropriate media. This information will also be published on the CSU campus websites

Applicants must file applications for admission to an impacted program during the initial filing period. Applicants who wish to be considered for impacted programs at more than one campus should file an application at each campus for which they seek admission consideration.

## Supplemental Criteria

Each campus with impacted programs or class-level admission categories uses supplementary admission criteria in screening applicants. Supplementary criteria may include rank-ordering of freshman applicants based on the CSU eligibility index or rank-ordering of transfer applicants based on verification of the Associate in arts for Transfer (AA-T) or Associate in Science Transfer (AS-T) degrees, the overall transfer grade point average (GPA), completion of specified prerequisite courses, and a combination of campus-developed criteria. Applicants for freshman admission to impacted campuses or programs are required to submit scores on either the SAT or the ACT, regardless of GPA. For fall admission, applicants should take tests as early as possible, but no later than November or December of the preceding year. Applicants who wish to be considered for admission to SJSU as an upper division transfer must complete a supplemental application. Details regarding the supplemental application process are posted to SJSU Admissions.

The supplementary admission criteria used by individual campuses to screen applicants are made available by the campuses to all applicants seeking admission to an impacted program.

## Application Filing Periods

Note: Not all terms/programs are open for admission.

Terms	Applications First Accepted	Initial Filing Period
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Spring Semester August 1

August 1 - 31

Fall Semester October 1

October 1 - November 30

Admission to San José State is competitive in all majors because SJSU continues to have more qualified applicants than available new student spaces. This situation is called "impaction" and it means that meeting the minimum California State University (CSU) requirements does not guarantee admission to SJSU. We will no longer have the enrollment capacity to accept all CSU eligible applicants, including some from local high schools and community colleges.

San José State gives preference in the competitive admission process to "local" applicants. For freshmen, you are considered a "local" applicant if you will graduate from a high school in Santa Clara County. For transfer applicants, you are considered a "local" applicant if you will earn the majority of your transferable units at a college located in Santa Clara or Santa Cruz county.

All applicants are strongly encouraged to apply to an alternative campus that offers your preferred major. If applying after the initial filing period, consult SJSU Admissions for current information. Similar information is conveniently available at Cal State Apply.

## Application Acknowledgment

About a week after applying at Cal State Apply, you will receive an email with your nine-digit SJSU ID included. This nine-digit number will be your primary university identification throughout your career at SJSU. Make sure the spam filters on your email account are set to accept email from @sjsu.edu.

For more information regarding the process go to SJSU Admissions.

## Hardship Petitions

At the present time, because of severe budget limitations and the resulting campus-wide impaction, SJSU does not accept hardship petitions.

## Notification

The Office of Undergraduate Admissions normally begins sending acceptance letters to applicants late February for admission to the fall semester and beginning in September for admission to the spring semester. Letters from departments or faculty do not constitute admission to the university.

Applicants are not admitted as students in the regular session of the university until they have received an official letter of admission from the Office of Undergraduate Admissions. In addition to the official letter of admission, International student applicants for F-1 and J-1 status will be issued the appropriate form I-20 or DS-2019 for immigration processing.

## Selection

The university reserves the right to select its students and deny admission to the university or any of its programs as the university, in its sole discretion, determines appropriate based on an applicant's suitability and the best interests of the university.

## California Promise

The California Promise Program enables a specific number of campuses of the California State University (CSU) to establish pledge programs for entering first time students who are both interested and able to complete baccalaureate degrees in four years. Many campuses have also established programs for students with Associate Degrees for Transfer from any California Community College to complete their baccalaureate degrees in two years. The program is limited to students who are residents of California.

Students who commit to enter either the four-year or two-year pledge will be given an early registration appointment for each state-supported enrollment period and will be provided with routine and thorough academic advisement. In order to remain in the program, students must meet with their advisors as prescribed, develop an enrollment plan, and complete 30 semester units or quarter equivalent units within each academic year, including summer. Students must fill out the SJSU pledge form, have a two or four-year plan in place in MyPlanner and started in Fall 2017 or later, form can be found at online. Interested students entering the CSU in the fall term should contact the campus offices or visit Cal State California Promise.

## Other Applicants

Fully matriculated students enrolled at any CSU campus have access to courses at other CSU campuses on a space available basis unless those campuses/ programs are impacted. This access is offered without students being required to be formally admitted to the host campus and in most cases without paying additional fees. Students should consult their home campus academic advisors to determine how such courses may apply to their specific degree programs before enrolling at the host campus.

CSU Fully Online Courses - Matriculated students in good standing may request enrollment in one course per term, offered by a CSU host campus. Enrollment requests will be granted based on available space, as well as completion of any stated prerequisites. Credit earned at the host campus is electronically reported to the student's home campus to be included on the student's transcript at the home campus.

CSU Visitor Enrollment - Matriculated students in good standing enrolled at one CSU campus may enroll at another CSU campus for one term. Credit earned at the host campus is reported at the student's request to the home campus to be included on the student's transcript at the home campus.

Intersystem Cross Enrollment - Matriculated CSU, UC, or community college students may enroll on a "space available" basis for one course per term at another CSU, UC, or community college and request that a transcript of record be sent to the home campus.

## Appeal of Admission Decision

Section 89030.7 of the California Education Code requires that the CSU establishes specific requirements for appeal procedures for a denial of admission. Each CSU campus must publish appeal procedures for applicants denied admission to the University. The procedure is limited to addressing campus decisions to deny an applicant admission to the University.

Admissions appeal procedures must address the basis for appeals, provide 15 business days for an applicant to submit an appeal, stipulate a maximum of one appeal per academic term, provide specific contact information for the individual or office to which the appeal should be submitted, and indicate a time estimate for when the campus expects to respond to an appeal. The appeal procedures must be included in all denial of admission notifications to students, and must also be published on the campus website. Applicants should consult with SJSU Admissions.

# Orientation

## Frosh Orientation

Orientation is an important first step to help new students learn to navigate SJSU, register for classes, and make the connections they need to be successful! These mandatory programs assist new students with making the transition to college. Orientation is delivered collaboratively by two SJSU departments, Academic Advising and Retention Services and New Student and Family Programs. These departments work with new students at Orientation and beyond by utilizing student leaders who are trained in issues of transition. At the program, professional staff advise students about required General Education courses, major courses, and prerequisites. Orientation staff who are knowledgeable about the campus will guide students and parents/guardians through experiences that educate them about campus programs and services.

## Graduate Orientation

The College of Graduate Studies presents an all-day program designed to inform incoming graduate students of university-wide policies and resources beyond those of individual departments and colleges and to integrate students into the SJSU campus community. Attendance is not mandatory but is highly encouraged. New F-1 international students are required to report to the Office of International Student and Scholars Services (ISSS). Students must check-in with ISSS in order to meet U.S. government requirements.

## Transfer Orientation

Transfer Orientation is a mandatory program that acquaints students with the campus, introduces them to their colleges and major departments, and provides them with critical academic planning information. This program will be managed by New Student and Family Programs in collaboration with AARS and other campus offices.

## Freshman Requirements

Generally, applicants will qualify for consideration for first-time freshman admission if they meet the following requirements:

1. Have graduated from high school, or have earned a Certificate of General Education Development (GED) or have passed the California High School Proficiency Examination;
2. Have a qualifiable minimum eligibility index (see Eligibility Index); and
3. Have completed with grades of C- or better each of the courses in the comprehensive pattern of college preparatory subject requirements also known as the "a-g" pattern (see "Subject Requirements").

## Eligibility Index

The eligibility index is the combination of the high school GPA and scores on either the ACT or the SAT. GP is based on grades earned in courses taken during the final three years of high school. Included in calculation of GPA are grades earned in all college preparatory "a-g" subject requirements, and bonus points for approved honors courses. Up to eight semesters of honors courses taken in the last three years of high school, including up to two approved



courses taken in the tenth grade can be accepted. Each unit of A in an honors course will receive a total of 5 points; B, 4 points; and C, 3 points.

Note: CSU campuses will accept current and redesigned SAT scores (beginning in spring 2016) for admission eligibility. Applicants may submit scores from either test.

A CSU Eligibility Index can be calculated by multiplying a GPA by 800 and adding the total score on the SAT exam (mathematics and critical reading on the old SAT, or mathematics and Evidence-Based Reading and Writing on the new SAT). For students who took the ACT, multiply the GPA by 200 and add 10 times the ACT composite score. Persons who are California high school graduates (or residents of California for tuition purposes) need a minimum index of 2900 using the old SAT or 2950 using the new SAT or 694 using the ACT. The Eligibility Index Table illustrates several combinations of required test scores and averages. The university has no current plans to include the writing scores from either of the admission tests in the computation of the CSU Eligibility Index.

Freshmen applicants to programs in the College of Engineering will be ranked using a modified eligibility index that will weigh the math section of the SAT more heavily than the evidence-based reading and writing/critical reading section.

If you apply for admission before you graduate from high school, you should compute your GPA using grades earned in a-g courses completed after the 9th grade. Do not include grades you expect to earn in courses during the remainder of 12th grade.

Persons who neither graduated from a California high school nor are a resident of California for tuition purposes, need a minimum index of 3502 using the old SAT, 3570 using the new SAT or 842 using the ACT. Graduates of secondary schools in foreign countries must be judged to have academic preparation and abilities equivalent to applicants eligible under this section. An applicant with a grade point average of 3.00 or above (3.61 for nonresidents) is not required to submit test scores. However, all applicants for admission are urged to take the SAT or ACT and provide the scores of such tests to each CSU campus to which they seek admission. Campuses use these test results for advising and placement purposes and may require them for admission to impacted majors or programs. Impacted CSU campuses require SAT or ACT scores of all applicants for freshman admission.

**Display information for:** Eligibility Index Table for California High School Graduates or Residents of California

## Provisional Admissions

The offer of provisional admission is based on the academic information that applicants report on the CSU Apply application. All academic information must be verified before the admitted student will be allowed to enroll and register for classes at SJSU. The admission status will remain "provisional" until an official, final transcript(s) passes verification and confirmation of graduation from high school has been made. The offer of provisional admission to the academic plan (major) listed on the admission letter is only valid for the admit term and may not be deferred to another semester. In addition, it is not possible to change majors prior to enrollment at SJSU.

Applicants will qualify for regular (non-provisional) admission when the university verifies that they have graduated and received a high school diploma, have earned a qualifying minimum eligibility index, have completed the comprehensive pattern of college preparatory "a-g" subjects, and, if applying to an impacted program or campus, have met all supplementary criteria.

## SAT and ACT Tests

The CSU uses only the ACT composite score, the mathematics and critical reading scores on the old SAT, or the mathematics and Evidence-Based Reading and Writing scores on the new SAT in its admission eligibility equation. The SAT or ACT writing scores are not currently used by CSU campuses.

## Subject Requirements

The California State University requires that first-time freshman applicants complete, with grades of "C-" or better, a comprehensive pattern of college preparatory study totaling 15 units. A "unit" is one year of study in high school.

2 years of social science, including 1 year of U.S. history, or U.S. history and government.

4 years of English

3 years of math (algebra, geometry and intermediate algebra).

2 years of laboratory science (1 biological and 1 physical, both must include laboratory instruction).

2 years in the same foreign language (subject to waiver for applicants demonstrating equivalent competence).

1 year of visual and performing arts: art, dance, drama/theater, or music.

1 year of electives: selected from English, advanced mathematics, social science, history, laboratory science, foreign language, visual and performing arts or other courses approved and included on the UC/CSU "a-g" list.

## Placement Measures for First-Year GE Written Communication and Mathematics/Quantitative Reasoning Courses

Freshman skills assessment and placement for general education written communication and mathematics/quantitative reasoning shall be based on systemwide skills assessment standards that include the Early Assessment Program/ Smarter Balanced Achievement Levels, ACT scores and/or SAT scores, high school coursework, high school GPA and math GPA.

Skills assessments are not a condition for admission to the CSU; they are a condition of enrollment. These skills assessments are designed to inform entering freshmen of placement in appropriate baccalaureate-level courses based on their skills and needs.

First-time freshmen in need of support as determined by the skills assessment will be placed in supported instruction. Supported instruction is designed to assist students in credit bearing courses. Students may also be required to participate in the Early Start Program. The Early Start Program gives students the opportunity to earn college credit in written communication and mathematics/ quantitative reasoning the summer before their first term.

More information on supported instruction is found online.

## Assessments and Placement for GE Written Communication

### Has Fulfilled the GE Subarea A2 Writing Requirement

The student has met the requirement via completion of one of the following:

#### Advanced Placement (AP) Test

- 3 or above: AP Language and Composition
- 3 or above: AP Composition and Literature

**International Baccalaureate (IB) Exam**

- 4 or above: IB Language A - Language and Literature (HL)
- 4 or above: IB Literature (HL)
- 4 or above: IB Language A1 (HL)

**College Level Examination Program (CLEP)**

- 50 or above: CLEP College Composition
- 50 or above: CLEP College Composition Modular

**College Transfer Coursework**

- Completed approved college course that satisfies CSU GE Area A2 (written communication) with a grade of C- or better (official transcript required).

## Placement in a GE Subarea A2 Writing Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

**English CAASPP/EAP Test:**

- Standard Exceeded (Level 4)
- Standard Met (Level 3) and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

**\*New SAT English Test:**

- 550 or above
- 510 - 540 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

**ACT English Test:**

- 22 or above
- 19 - 21 and completed 12th grade approved year-long English course (CSU ERWC, AP, Weighted Honors English) with grade of C- or better

**High School Courses and GPA:**

- Weighted GPA 3.3 or above
- GPA 3.0 or above and completed approved 12 grade year-long English course (AP, CSU ERWC, Weighted Honors English) with a grade of C- or better
- GPA 3.0 or above and completed Honors English
- GPA 3.0 or above and 5 or more years of high school English

## Placement in a Supported GE Subarea A2 Writing Course and Participation in the Early Start Program Recommended

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

**\*New SAT English Test:**

- 510 - 540 and 4 or more years of high school English

**ACT English Test:**

- 19 - 21 and 4 or more years of high school English

**High School Courses and GPA:**

- Weighted GPA 3.0 or above and 4 or more years of high school English

\*SAT score conversion for scores prior to March 2016 (old SAT): <https://collegereadiness.collegeboard.org/sat-essay-scoring-before-march-2016>

## Placement in a Supported GE Subarea A2 Writing Course and Participation in the Early Start Program Required

Based on multiple measures evaluation, the student is in need of additional academic support, including participation in the Early Start Program. Visit the Early Start Program Page to learn about the Early Start Program Requirement.

## Assessments and Placement for GE Mathematics/Quantitative Reasoning: Non-Math Intensive Majors (Algebra and Statistics Disciplines, Non-STEM and Undecided Majors)

### Has Fulfilled the GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

**Advanced Placement (AP) Test:**

- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

**International Baccalaureate (IB) Test:**

- 4 or above on Math Higher Level (HL)

**College Level Examination Program (CLEP):**

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

**College Transfer Coursework:**

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4 (official transcript required).

## Placement in a GE Subarea B4 Math/Quantitative Reasoning Course

The student has met examination standards and/or multiple measures-informed standards via one of the following criteria:

### CAASPP/EAP Math Exam:

- Standard Exceeded (Level 4)
- Standard Met (Level 3) and completed 12th grade approved year-long math course beyond Algebra 2 or Integrated Math 3, with a C- or better
- Standard Met and 4 or more years of high school math or quantitative reasoning

### \*New SAT Math Test:

- 570 or above
- 550 or above on Subject Test in Math Level 1 or 2
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 or Integrated Math 3, with a C- or better

### ACT Math Test:

- 23 or above
- 20 - 22 and completed 12th grade approved year-long math course beyond Algebra 2 or Integrated Math 3, with a C- or better

### High School Courses and GPA:

- Weighted math GPA 3.0 or above and completed 12th grade approved year-long math course beyond Algebra 2 or Integrated Math 3, with a C- or better
- Weighted math GPA 3.0 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above
- Weighted high school GPA 3.5 or above and 4 or more years of high school math or quantitative reasoning

\*SAT score conversion for scores prior to March 2016 (old SAT): <https://collegereadiness.collegeboard.org/sat-essay-scoring-before-march-2016>

## Placement in a Supported GE Subarea B4 Math/Quantitative Reasoning Course and Participation in the Early Start Program Recommended

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

### High School MATH GPA:

- Weighted math GPA 3.3 or above

## Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Required

Based on multiple measures evaluation, the student needs additional academic support including participation in the Early Start Program. Visit the Early Start Program page to learn about the Early Start Program Requirement.

## Assessments and Placement for GE Mathematics/Quantitative Reasoning: Pre- STEM/STEM and Other Math- Intensive Majors

### Has Fulfilled the GE Subarea B4 Math/Quantitative Reasoning Requirement

The student has met the requirement via completion of one of the following:

#### Advanced Placement (AP) Test:

- 3 or above on AP Calculus AB
- 3 or above on AP Calculus BC
- 3 or above on AP Statistics
- 3 or above on AP Computer Science Principles

#### International Baccalaureate (IB) Test:

- 4 or above on Math Higher Level (HL)

#### College Level Examination Program (CLEP):

- 50 or above on: Calculus, College Algebra, College Algebra-Trigonometry, Pre-Calculus or Trigonometry

#### College Transfer Coursework:

- Completed math/quantitative reasoning college course with a C- or better that satisfies CSU GE Area B4 (official transcripts required).

## Placement in a GE Subarea B4 Math/Quantitative Reasoning Course

The student has met examination standards and/or multiple measures- informed standards via one of the criteria below:

#### CAASPP/EAP Math Exam:

- Standard Exceeded (Level 4)
- Standard Met (Level 3) and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

#### \*New SAT Math Test:

- 570 or above
- 550 or above on Subject Test in Math Level 1 or 2
- 520 - 560 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

**ACT Math Test:**

- 23 or above
- 20 - 22 and completed 12th grade approved year-long math course beyond Algebra 2 with a C- or better

**High School Courses and GPA:**

- Weighted math GPA 3.5 or above and completed 12th grade approved year-long math course beyond Algebra 2 with a grade of C- or better
- Weighted math GPA 3.5 or above and 5 or more years of high school math or quantitative reasoning
- Weighted high school GPA 3.7 or above

\*SAT score conversion for scores prior to March 2016 (old SAT)

## **Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Recommended**

The student has met examination standards and/or multiple measures- informed standards via the criteria below:

**High School Math GPA:**

- Weighted math GPA 3.3 or above

## **Placement in a Supported GE Subarea B4 Math/ Quantitative Reasoning Course and Participation in the Early Start Program Required**

Based on multiple measures evaluation, the student needs additional academic support including participation in the Early Start Program. Visit the Early Start Program page to learn about the Early Start Program Requirement.

## **Early Start Program**

**The goal of the Early Start Program (ESP) is to:**

- Better prepare students in written composition and mathematics/quantitative reasoning before the fall term of freshman year, improving students' chances of successful completion of a baccalaureate degree.
- If required to participate in ESP, as determined by multiple measures, students will begin in the summer before the start of the freshman year.
- For general information about ESP including fees and course listings, visit CSU Student Success - Early Start. Students are encouraged to visit the campus website for ESP information once admitted.
- Eligible financial aid applicants with an Estimated Family Contribution (EFC) of \$5,500 or less will be eligible for waiver of the per unit ESP fee.

For more information on assessments, placements and the Early Start Program, please visit CSU Student Success - Early Start

To facilitate appropriate first-year course placement, the CSU evaluates entering students for academic preparation in two areas: quantitative reasoning and written communication. The evaluation process takes into account several factors, including grade point average, completed high school coursework, transfer-level coursework, and scores on standardized tests such as the SAT, ACT, CAASPP/EAP, and Advanced Placement and International Baccalaureate examinations.

On the basis of this evaluation, some students who may benefit from additional academic preparation are required to participate in summer skill-building activities through the Early Start Program. The Early Start program provides students with an opportunity to take college level courses in the summer. This will allow the student to begin earning units towards their degree and have an early transition to SJSU. This requirement may be satisfied through live or online Early Start courses offered by any CSU campus. Students with an Early Start requirement will receive information about the program, including specific course options, through MySJSU starting in the first week of May and continuing throughout the summer. Regular financial aid packages may not be applied to Early Start classes; however, fee waivers are automatically given to qualifying students.

Students who need sign language interpreters or other accommodations should contact the Accessible Education Center (AEC) at (408) 924-6000 as soon as possible, or at least two weeks prior to the first day of Early Start classes. For more information about obtaining accommodations through the AEC.

Students who fall into one or more of the following categories are excused from the Early Start requirement, regardless of their academic record:

1. Non-residents of California (See Registrar's Office for information on residency.)
2. International students (F-1 and J-1 visas only)
3. Students admitted after June 1st

In addition, students who have a serious and compelling reason for not participating in the program may petition for an exception to the requirement. Exceptions are granted only when program participation is impossible or would lead to undue hardship. (Summer vacation plans are not considered grounds for an exception.) The petition can be found online. For a petition to be approved, documentation will be required.

Students who do not satisfy their Early Start requirement may be sanctioned as outlined in the SJSU Early Start Expectations for Completion section of the web site.

The Early Start requirement applies to students admitted in the fall semester only. Students admitted in the spring semester are exempt from the Early Start Program.

## **Subject Requirement Substitution for Students with Disabilities**

If you are unable to complete certain subjects because of your disability, please call the Accessible Education Center at 408-924-6000 or by email [aec-info@sjsu.edu](mailto:aec-info@sjsu.edu).

## **Step to College/Unitrack - High School Students**

See Alternative Enrollment Programs.



# Transfer Requirements

Students who have completed fewer than 60 transferable semester college units (fewer than 90 quarter units) are considered lower division transfer students. Students who have completed 60 or more transferable semester college units (90 or more quarter units) are considered upper division transfer students. Applicants who complete college units during high school or through the summer immediately following high school graduation are considered first time freshmen and must meet the CSU minimum eligibility requirements for first-time freshman admission. Transferable courses are those designated for baccalaureate credit by the college or university offering the courses and accepted as such by the campus to which the applicant seeks admission.

## Transfer Policies of CSU Campuses

Most commonly, college level credits earned from an institution of higher education accredited by a regional accrediting agency recognized by the United States Department of Education is accepted for transfer to campuses of the CSU; however, authority for decisions regarding the transfer of undergraduate credits is delegated to each CSU campus.

California Community Colleges and other authorized certifying institutions can certify up to 39 semester (58.5 quarter) units of General Education-Breadth (GEBreadth) or 37 semester (55.5 quarter) units of the Intersegmental General Education Transfer Curriculum (IGETC) for transfer students to fulfill lower-division general education requirements for any CSU campus prior to transfer.

"Certification" is the official notification from a California Community College or authorized institution that a transfer student has completed courses fulfilling lower-division general education requirements. The CSU GE-Breadth and the Intersegmental General Education Transfer Curriculum (IGETC) certification course lists for particular community colleges can be accessed at [www.assist.org](http://www.assist.org).

CSU campuses may enter into course-to-course or program-to-program articulation agreements with other CSU campuses, any or all of the California Community Colleges, and other regionally accredited institutions. Established CSU and California Community College articulations may be found on [www.assist.org](http://www.assist.org). Students may be permitted to transfer no more than 70 semester (105 quarter) units to a CSU campus from an institution that does not offer bachelor's degrees or their equivalents, for example, community colleges. Given the university's 30-semester (45-quarter) unit residency requirement, no more than a total of 90-semester (135-quarter) units may be transferred into the University from all sources.

## Lower Division Transfer Requirements

Due to increased enrollment demands, most CSU campuses - including San José State - do not admit lower division transfer applicants.

Generally, applicants will qualify for admission as a lower division transfer student if they have a cumulative GPA of at least 2.0 (C or better) in all transferable units attempted, are in good standing at the last college or university attended, and meet any of the following standards:

1. Will meet the freshman admission requirements (GPA and subject requirements) in effect for the term to which they are applying (see "Freshman Requirements"); or
2. Were eligible as a freshman at the time of high school graduation except for the subject requirements, and have been in continuous attendance in an accredited college since high school graduation, and have made up the missing subjects.

Applicants who graduated from high school prior to 1988 should contact the Admissions Office to inquire about alternative admission programs.

## Making Up Missing College Preparatory Subject Requirements

San José State University does not allow students to make up missing college preparatory (a-g) subjects over the summer sessions. All work must be completed by the end of the 8th semester of high school with a "C- or Better" grade.

## Upper Division Transfer Requirements

Generally, applicants will qualify for consideration for upper-division transfer admission if they meet all of the following requirements:

1. Cumulative grade point average of at least 2.0 (C or better) in all transferable units attempted;
2. In good standing at the last college or university attended; and
3. Completed at least sixty (60) transferable semester (90 quarter) units of college level coursework with a grade point average of 2.0 or higher and a grade C- or better in each course used to meet the CSU general education requirements in written communication, oral communication, critical thinking, and quantitative reasoning, e.g. mathematics.

The 60 units must include at least 30 units of courses that meet CSU general education requirement including all of the general education requirements in communication in the English language (both oral and written) and critical thinking and the requirement in mathematics/quantitative reasoning (usually 3 semester units) OR the Intersegmental General Education Transfer Curriculum (IGETC) requirements in English communication and mathematical concepts and quantitative reasoning.

All applicants for transfer will be required to complete a supplemental application including grades for all coursework completed and a list of all coursework in progress.

Any transfer applicant who wishes to be considered for admission must complete and submit the supplemental application by the deadline posted to his or her MySJSU To Do List.

For more information about the way that this information will be considered for admission and a list of major-specific coursework, please see Program Specific Supplemental Coursework section.

Questions about the Supplemental Application can be answered by consulting our help guide.

## Associate Degrees for Transfer (AA-T or AS-T)

### Student Transfer Achievement Reform (STAR) Act (SB 1440)

The Associate in Arts for Transfer (AA-T) and the Associate in Science for Transfer (AS-T) degrees offered at the California Community Colleges (CCC) are designed to provide California Community College students with the optimum transfer preparation and a clear admission pathway to those CSU degree majors. Students who have completed these transfer degrees and are admitted to a similar CSU major program or option for that discipline will be able to complete the Baccalaureate Degree within 60 semester or 90 quarter units providing that all remaining required courses are completed successfully without a break in attendance and providing that no supplemental courses for minors or areas of emphasis are undertaken.

CCC students who earn an Associate Degree for Transfer (AA-T or AS-T) are guaranteed admission with junior standing to a CSU and given priority admission over other transfer applicants when applying to a local CSU campus or non-impacted CSU program. AA-T or AS-T admission applicants are given limited priority consideration based on their eligibility ranking to an impacted campus/program or to campuses/programs that have been deemed similar to the degree completed at the community college. Students who have completed an AA-T/AS-T in a program deemed similar to a CSU major are able to complete remaining requirements for graduation within 60 semester (90 quarter) units. It is the responsibility of the student who has earned an AA-T/AS-T to provide documentation of the degree to the CSU campus.

Students who earn associate degrees for transfer and apply to a CSU campus but cannot be admitted due to impaction will be redirected to another CSU campus and offered admission for the same term. In order to qualify for the priority admission guarantee, transfer applicants must be conferred an approved Associate Degree for Transfer (AA-T/AS-T) by a California Community College, apply for admission to California State University campuses for an open term by the published deadline, submit all requested transcripts and documents, meet CSU admission eligibility requirements for the campus and/or program, and comply with any other prescribed admission requirements. It is the responsibility of these transfer students to provide documentation about the completion of the degree to each CSU campus that has received an application for admission.

## Transfers - Provisional Admission

The offer of provisional admission is based on the academic information that applicants report on the CSU Apply application. All academic information must be verified before the admitted student will be allowed to enroll and register for classes at SJSU. The admission status will remain "provisional" until an official, final transcript(s) passes verification and confirmation of completion of any spring work in progress. The offer of provisional admission to the academic plan (major) listed on the admission letter is only valid for the admit term and may not be deferred to another semester. In addition, it is not possible to change majors prior to enrollment at SJSU.

## Post-baccalaureate (Second Baccalaureate)

Due to enrollment restrictions and impaction, SJSU no longer accepts applications from post-baccalaureate/second baccalaureate students. The only exception is for Nursing.

## International Student Requirements

The following information pertains to specific requirements for SJSU International Students.

### Admission Requirements

The CSU must assess the academic preparation of international students. For this purpose, "international students" include those who hold U.S. temporary visas as students (F-1), exchange visitors (J-1), or in other nonimmigrant classifications.

The CSU uses separate requirements and application filing dates in the admission of "international students." Verification of English proficiency (see the section on the English Language requirement for undergraduate applicants), financial resources, and academic performance are each important considerations for admission. Academic records from international institutions must be on file by the posted deadlines and, if not in English, must be accompanied by certified English translations.

### Insurance Requirement

Effective August 1, 1995, as a condition of receiving an I-20 or DS-2019 form, all F-1 and J-1 visa applicants must agree to obtain and maintain health insurance as a condition of registration and continued enrollment in the California State University. Such insurance must be in amounts as specified by the United States Department of State and San José State University. The campus president or designee shall determine which insurance policies meet these criteria. Further information may be obtained from International Student and Scholar Services, Student Union - CPGE.

### English-Language Proficiency Exam Requirement

All undergraduate applicants whose native language is not English and who have not attended schools at the secondary level or above for at least three years full time where English is the principal language of instruction must present a score of 61 or above on the Test of English as a Foreign Language (TOEFL). Some majors and class levels may require a higher score. For graduate student applicants, please refer to Graduate Admissions. A few programs may also use alternative methods of assessing English fluency: Pearson Test of English Academic (PTE Academic) and the International English Language Testing System (IELTS).

SJSU will notify students after they apply when to submit scores.

SJSU Minimum Proficiency Standards TOEFL Internet TOEFL Paper PTE IELTS

Undergraduate, except Engineering	61	500	44	6.0
All Engineering majors	80	550	53	6.5
All Graduate applicants	80	550	53	6.5

## Transcript Requirements

### Transcript Submission

All transcripts submitted must be official and sent directly from the originating school or college to the Office of Admissions. San José State University accepts electronic transcripts as the preferred method. If possible please request your school to send your transcripts electronically. Electronic transcripts save processing time. Transcripts submitted by the student are not acceptable unless submitted in a sealed envelope. All records submitted become the property of the university, part of the student's file, and will not be released. If a student does not complete the application or enroll, the records will be kept on file for one year only.

Undergraduate students with college transfer work who are accepted for admission, and who desire advising, will be required to present a set of college transcripts to their departmental advisor. It is suggested that you order a set of transcripts for yourself at the same time you order transcripts sent to the Office of Admissions.

### Freshmen Applicant Transcripts

Students applying for admission to the university while still attending high school may be evaluated on their self-reported application information. A final high school transcript with the date of graduation must be sent to the Office of Admissions at the time of graduation.

## Transfer Applicant Transcripts

Transfer applicants who have completed 60 or more semester units of transferable credits and who are applying to the university need not file the high school transcript. However, applicants are cautioned that if, during the evaluation process, it is determined that fewer than 60 semester units of transferable credit have been earned, processing will stop and the application will be withdrawn.

All undergraduate applicants must file one official transcript from each college in which they have enrolled. This includes USAFI, the Defense Language Institute, Special Sessions (Winter Session and Professional Development), correspondence and audited courses, as well as any college in which the student was enrolled and withdrew without earning credit.

Former students need not order transcripts of work completed at SJSU whether this work was accomplished in the regular session, Open University, Special Sessions, or through the university Professional Development Program. Similarly, they need not reorder transcripts that were previously forwarded to this university. But if they did college work in the interim, such transcripts must be filed with their papers. Students absent from the university for a period of seven years or longer must resubmit all documents required for admission.

## Credential Applicant Transcripts

Applicants to credential programs are required to file one official transcript from each and every college in which they have enrolled. Transcripts must be sent directly from the originating institution to the Office of Graduate Admissions & Program Evaluations (GAPE). Transcripts submitted by the student are not acceptable unless submitted in an official sealed envelope.

All college work must be reported. Failure to comply with this requirement may void the student's application.

## Test Requirements

### EPT/ELM Placement Tests

#### **EPT/ELM Placement Tests in English and Math**

Prior to August 2017 the CSU required that each entering undergraduate, except those who qualified for an exemption, take the CSU Entry Level Mathematics (ELM) examination and the CSU English Placement Test (EPT) prior to enrollment. As of Spring 2018, these placement tests have been replaced by alternative assessments. See section on alternative assessments elsewhere in the policies.

Although the ELM/EPT are no longer offered, scores for students who previously took the ELM and EPT will be honored.

### SAT and ACT

SJSU requires SAT or ACT scores from all freshman applicants.

Freshman and transfer applicants who have fewer than 60 semester or 90 quarter units of transferable college credit are strongly encouraged to submit scores, unless exempt (see "Eligibility Index"), from either the ACT or the SAT of the College Board. Persons who apply to an impacted program may be required to submit test scores and should

take the test no later than November or December. Test scores also are used for advising and placement purposes. Registration forms and dates for the SAT or ACT are available from school or college counselors or from a CSU campus testing office. Or students may contact:

### **The College Board (SAT)**

Registration Unit, Box 6200  
Princeton, New Jersey 08541-6200  
609-771-7588  
[www.collegeboard.org](http://www.collegeboard.org)

### **ACT Registration Unit**

P.O. Box 414  
Iowa City, Iowa 52240  
319-337-1270  
[www.act.org](http://www.act.org)

## **Placement by Examination**

### **Advanced Standing by Examination**

Advanced standing by examination permits accelerated progress toward the degree and a wider selection of course work.

Advanced standing by examination is divided into three categories: (1) advanced placement by examination (no unit credit awarded); (2) waiver of requirements (no unit credit awarded); and (3) advanced credit by examination.

### **Course Placement by Examination**

See the policies below and the respective departments for details about all placement examinations.

#### **Mathematics**

The Precalculus Proficiency Assessment is offered to students who would like to place into MATH 30, MATH 30P , MATH 30PL , or MATH 71, and have not yet satisfied the prerequisites (MATH 71: MATH 18A/MATH 19 or SAT 570+ or ACT 23+; MATH 30: MATH 19 with B or better; MATH 30P /MATH 30PL : MATH 19 with C- or better). Contact the Math Department for more information or contact the Testing Office; [testing-office@sjsu.edu](mailto:testing-office@sjsu.edu).

#### **Foreign Language**

Placement examinations in French, German and Spanish are recommended for those students who studied language in high school or acquired language skills through life experiences.

Students having completed college level foreign language (at SJSU or elsewhere) generally will not take the placement examination but will enroll in the course for which they qualify on the basis of units completed.

#### **Music**

All new and transfer music majors, including graduate students and returning former students, must report to the School of Music and Dance for auditions, advising and placement examinations. Music majors and minors must also audition for a major ensemble before completing registration.

## Precalculus Proficiency Assessment (PPA)

The Precalculus Proficiency Assessment (PPA) is offered to students who would like to place into MATH 30, MATH 30P , MATH 30PL , or MATH 71 and have not yet satisfied the prerequisites (MATH 71: MATH 18A/MATH 19 or SAT 570+ or ACT 23+; MATH 30: MATH 19 with B or better; MATH 30P /MATH 30PL : MATH 19 with C- or better).

Contact Testing Office, Industrial Studies Building Room 228; 408-924-5980; testing-office@sjsu.edu.

- Entering frosh who plan to take MATH 30 or MATH 71 their first semester should take the Precalculus Proficiency Assessment prior to attending orientation. Exams are offered throughout September through January for Spring admits and May through August for Fall admits. Check the Testing Office website for details at testing.sjsu.edu.
- For course registration information regarding Calculus I (MATH 30, MATH 30P , and MATH 30PL ) and MATH 71 see Math Department.

### Placement Through External Exams

- Any student who has earned a 3 or higher on the AP Calculus AB or Calculus BC/AB Subscore will receive credit for MATH 30 Calculus I and is eligible to enroll in MATH 31 Calculus II.
- Any student who has earned a 3 or higher on the AP Calculus BC will receive credits for MATH 30 Calculus I and MATH 31 Calculus II and is eligible to enroll in MATH 32 Calculus III.
- Any student who has earned a 50 or higher on the CLEP Calculus will receive credit for MATH 30 Calculus I and is eligible to enroll in MATH 31 Calculus II.
- Any student who has earned a 50 or 70 on the CLEP Pre-Calculus will receive credit for MATH 19 Precalculus and is eligible to enroll in MATH 30P or MATH 30PL (Calculus I).
- Any student who has earned a 71 or 80 on the CLEP Pre-Calculus will receive credit for MATH 19 Precalculus and is eligible to enroll in MATH 30 Calculus I.
- Any student who has earned a 50 or higher on the CLEP College Algebra will receive credit for MATH 18A and is eligible to enroll in MATH 71.

### Precalculus Proficiency Assessment (ALEKS)

The Precalculus Proficiency Assessment at SJSU is conducted through ALEKS PPL, an adaptive online program that uses artificial intelligence to map a student's strengths and weaknesses.

It consists of 3 parts:

1. Initial Assessment (30 questions, about 60-90 minutes to complete)
2. Prep and Learning Module (individualized, self-paced online review, with up to 2 practice tests)
3. Access to 2 Proctored Placement Assessments (proctored by the SJSU Testing Office)

For additional information on the PPA visit testing.sjsu.edu/CalcPE

### Registration and Payment

See information on testing.sjsu.edu.

### Accommodations

Students needing accommodations can take the Precalculus Proficiency Assessment through the AEC. Registration can be done after payment and directly through the AEC.

## Foreign Language Placement Examination

The placement test is recommended for those students who studied a language in high school or acquired language skills through life experiences such as foreign travel or study abroad.

If you have taken college level foreign language courses (at SJSU, a community college, or other university), you do not need to be tested. Just enroll in the course for which you qualify on the basis of units accumulated. If you are unsure about course equivalencies, call 408-924-4602 and you will be referred to an advisor.

Students may also take the Placement Test for Chinese, French, German, Japanese, Spanish or Vietnamese on an individual basis for the following semester. For details, call the Carmen Sigler Media Center at 408-924-4696.

For other languages, call 408-924-4602.

## Waiver Examinations

A satisfactory score on one or more of the following tests will result in a waiver of the requirement, but no unit credit will be awarded. Information on all waiver examinations is available in the Testing Office. There is a test fee associated with some of these exams.

### American Institutions

A waiver examination (giving no unit credit) is available in the Testing Office to challenge the California Government graduation requirement (Area US3).

### Written Communication II Course (100W)

Students who have earned a waiver-eligible score on the Writing Skills Test (WST) at SJSU, or who have satisfied the CSU Graduation Writing Assessment Requirement at another CSU campus, are not required to take a 100W course unless their degree programs do not accept a waiver of the course. Consult the General Education section for a list of majors that do not accept the waiver. **Note that the Writing Skills Test requirement has been temporarily suspended. Students should consult the following website for information: Current WST information**

## Credit by Exam (CBE) for Challenge Examinations

In accordance with University Policies F15-5 and F15-11, academic credit may be earned through CBE for any department-approved 0-100 level course for which an equivalent CLEP exam is not available. Credit earned from CBE is non-transferable and awarded on a Credit/No Credit basis. It can only be used to clear SJSU requirements and assist with progress towards a degree at SJSU. CBE can be attempted only once per course, up to a maximum of 30 units. This 30 unit maximum also includes course credit earned through CLEP examinations.

**If you are seeking Credit By Examination, you must meet the following criteria:**

- You are a currently matriculated student at SJSU.
- You cannot be enrolled in the course, and have never received a grade (other than W) for the course or an equivalent course.
- You can only use the course towards completion of degree requirements at SJSU.
- You have never attempted CBE for the course before.
- You have fewer than the maximum of 30 units allowed for CBE/CLEP credit.

Contact the Testing Office to request a petition form. Visit [testing.sjsu.edu/CBE](http://testing.sjsu.edu/CBE) for more information.

## Credit by Examination

### Standardized Exams



SJSU grants credit toward its undergraduate degrees for successful completion of various standardized exams. The following are the guidelines for the credit that may be granted at SJSU for each standardized exam. Students may not earn duplicate credit by examination if they have previously taken or subsequently take equivalent exams or coursework.

**Display information for:** AP (Advanced Placement) Exams

**Display information for:** College Level Exam Program - CLEP

**Display information for:** International Baccalaureate (IB)

## Writing Skills Test (WST)

All students, regardless of where they began their college studies, are required by the California State University to satisfy an upper division written communication requirement. At SJSU the writing requirement has two parts: passing the WST and passing a 100W course. The WST requirement has been temporarily suspended. Please see the following website for more information: [Current WST Policy](#)

- A satisfactory score on the Writing Skills Test (WST) is required prior to enrollment in Written Communication II (100W courses) and all SJSU Studies (advanced general education, Areas R, S, and V) courses. To make timely progress to their degree, students should register for, and take, the first available WST they can after completing ENGL 1A course (CSU GE Area A2) and a critical thinking course (CSU GE Area A3).
- The WST requirement cannot be waived, though the test has been temporarily suspended. See note above
- High WST scores may also be used to waive the required Written Communication II course (100W). Some majors do not permit waiving of 100W no matter what score the student receives on the WST. Individual score reports explain each student's status.

Beginning Fall 2014 the prerequisite for the WST is completion of ENGL 1A (CSU GE Area A2) with a grade of "C- or Better". Completion of a second semester composition course (e.g. Area A3 courses or ENGL 1B at SJSU) is strongly recommended for students prior to taking the WST. For SJSU students who completed their English composition courses at SJSU prior to Fall 2014, ENGL 1A and ENGL 1B (or equivalent) were prerequisites for the WST.

Once the writing courses have been completed with grades of "C- or Better", students should visit [testing.sjsu.edu/wst](http://testing.sjsu.edu/wst) to view upcoming test dates and register for the WST. Completion of the WST prior to reaching upper division standing will prevent any delays in registration for any courses which require the WST or 100W as a prerequisite for enrollment. Transfer students should complete the WST prior to their first semester at SJSU to prevent any delays in registration.

Consult [testing.sjsu.edu](http://testing.sjsu.edu) for the most current information about the WST. The following students do not need to take the WST to enroll in any classes:

1. Students who have completed the Graduate Writing Assessment Requirement (GWAR) at SJSU or at another CSU campus as a matriculated student at the time of completion. Note: If you have satisfied the GWAR at another CSU campus, your department may still require that you take 100W to satisfy the requirements of the major, even though the university GWAR requirement has been met;
2. Post-baccalaureate students who have earned a baccalaureate degree from a regionally accredited U.S. college or university;
3. Students who have submitted a Written Communication II petition and received approval granting equivalency based on satisfactory completion of an upper division composition course completed at another university, or the submission of published work for which the student is the primary author.

For students who have failed the WST, SJSU offers ENGL 100A and LLD 100A. Either course satisfies the WST requirement if passed with a "C or Better." See Directed self placement for 100A or 100W.

If you have questions about your status, contact the Testing Office at [testing-office@sjsu.edu](mailto:testing-office@sjsu.edu).

If you will not be in the U.S. for one of the spring or summer WST exams, take the first available exam in the fall semester.

If you will not be in the U.S. for one of the fall WST exams, take the first available exam in the spring semester. Students who live more than 50 miles away from campus may request to have their WST proctored at an approved testing center in the US. E-mail [testing-office@sjsu.edu](mailto:testing-office@sjsu.edu) for more information.

Effective Fall 2012, students must take the WST no later than the term in which they reach 75 earned units (counting no more than 70 transfer units). If they do not pass, they must retake the WST or, if the WST has been failed once, take a 100A course each term until they pass. Students who reach 90 earned units without passing the test must enroll in 100A. (Updated - Presidential Directive 2009-05) (This part of the directive has been temporarily suspended, but students are expected to take and pass the 100W class required for their major no later than earning 100 units.)

### **Graduate Students and the WST**

All graduate students are required to satisfy the Graduation Writing Assessment Requirement (GWAR) through the completion of courses designed for this purpose in order to advance to candidacy and to graduate. The current list of courses can be found online. Some of these courses require the WST for registration. Waivers of the exam are issued for graduate students. The prerequisites described above (ENGL 1A and a second semester composition course) are assumed to have been completed during the undergraduate education. Exceptions to the course requirements can be found on Graduate Admissions and in the section on Graduation Writing Assessment Requirement - Graduate. See your department graduate advisor for more information.

### **WST Scores**

The WST has been temporarily suspended. See WST for more details.

Scores will be reported on your MySJSU account. Contact Testing Office for detailed WST score information.

### **How to prepare for this exam**

- WST information sample test questions, and registration materials may be obtained from helpful links can be found at Testing Office.
- The Writing Center offers tutorial help and workshops on various writing topics.

### **To register**

1. Register at least 4 weeks in advance with the Testing Office, dates are available on testing website. Students who require disability-related accommodations must register and contact AEC at least four weeks prior to the posted test date.
2. The non-refundable test fee is \$38.00, payable online via credit card, or at the Testing Office (Industrial Studies 228) with cash or check.

## **Test Accommodations**

Students requiring test accommodations must submit the appropriate documentation to the Accessible Education Center (AEC). To ensure accommodations can be made, an appointment must be scheduled with an AEC counselor at least one month prior to a standardized or placement exam to determine eligibility and prescribe test accommodations. Students unable to meet this deadline should contact the AEC as soon as possible.

## **Transfer Credit**

SJSU has extensive articulation with many colleges and universities in California. Course-to-course articulation agreements identify courses of comparable content for major and minor requirements for undergraduate degree programs at SJSU. The articulation agreement assures students that the approved transfer courses on the transfer campus will be accepted "in lieu of" the comparable SJSU courses. Information about the courses for each campus that SJSU has agreements with can be found at our comprehensive on-line transfer planning site.

Generally, transfer credit will be posted within the first semester of attendance or sooner in some cases. It is important to submit official transcript(s) from all institutions attended for work completed to ensure that transfer credit is posted.

San José State University accepts electronic transcripts as the preferred method. If possible please request your school to send your transcripts electronically. Electronic transcripts save processing time. If you have questions or need assistance with your transfer credit, please email [eval@sjsu.edu](mailto:eval@sjsu.edu).

## Credit from Other Colleges and Universities

California Community Colleges will certify to The California State University those courses that are of baccalaureate level and therefore transferable for at least elective credit. Credits earned in accredited community colleges will be evaluated by the Office of Undergraduate Admissions in accordance with Title 5 of the California Code of Regulations, Section 40409: A maximum of 70 semester units earned in a community college may be applied toward the degree, with the following limitations:

1. No upper division credit may be allowed for courses taken at a community college, though content equivalence to upper division courses may be approved so that lower division courses may be articulated for "content credit only."
2. No credit may be allowed for professional courses in education taken at a community college, other than an introduction to education course.

Credits earned at a regionally accredited colleges will be evaluated by the Office of Undergraduate Admissions and advanced standing allowed on the basis of the evidence submitted. Credit toward the fulfillment of graduation requirements will be allowed only insofar as the courses satisfactorily completed meet the standards and the requirements of the basic course pattern of the college.

Credits earned at non-accredited colleges may be accepted as a basis for advanced standing only to the extent that the applicant can demonstrate to the satisfaction of the university that a satisfactory degree of proficiency has been attained in the course in question.

For details on transferring graduate credits from other institutions, see the section on Transfer Credit in the Graduate Program.

## Credit for Military Training in Non-Collegiate Settings

SJSU grants undergraduate degree credit for successful completion of non-collegiate instruction, either military or civilian, as recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The number of units allowed is based on the recommendation in the Guide to the Evaluation of Educational Experience in the Armed Services and the National Guide to Educational Credit for Training Programs.

Six semester units of credit are awarded for being on active duty for at least one year in the Army, Navy, Air Force, Marines or Coast Guard. Three of these units can be used to complete Area E of the CSU General Education Program, two units will apply to the physical education requirement for SJSU graduation, and one unit is applied toward elective credit.

**Documents that should be submitted to assess credit for military education are:**

- Joint Service Transcripts (JTS; Army, Navy, Marines, Coast Guard)
- Community College of the Air Force transcript (CCAF)
- DD-214 (or DD-295 for students still in the military)

SJSU also awards credit for College Level Examination Program (CLEP) subject examinations. The specific credit for the 36 different College Level Exam Program - CLEP exams can be found under credit by exam.

The Office of Undergraduate Admissions will assist students with questions they may have about transfer credit in order to determine student level and admission eligibility.

**Contact:**

**Office of Admissions and Outreach (Undergraduate)**

**One Washington Square**

San José, CA. 95192-0016

Phone: 408-283-7500

Email: eval@sjsu.edu

## Credit for Professional Education

### Special Session

Courses numbered 100-399 earn degree and residence credit. While the university may accept this work toward baccalaureate and graduate degrees, it is a matter of individual department evaluation as to whether such work is accepted as applying toward the major or minor. A record of this work is maintained by the Registrar's Office. Transcripts are available once credit is posted.

### Continuing Education Units (CEUs)

Courses numbered 400-499 offer Continuing Education Units (CEUs), a nationally-recognized unit of measurement for a variety of noncredit programs applying toward licensure, promotion or career advancement. CEUs are not applicable to a degree nor to residence unit requirements. A record of this work is maintained by the College of Professional and Global Education. Transcripts are available once credit is posted. Contact College of Professional and Global Education.

## Credit for Non Collegiate Instruction

San José State University grants undergraduate degree credit for successful completion of non collegiate instruction, either military or civilian, appropriate to the baccalaureate degree, that has been recommended by the Commission on Educational Credit and Credentials of the American Council on Education. The numbers of units allowed are those recommended in the

- Guide to the Evaluation of Educational Experience in the Armed Services and the National Guide to Educational Credit for Training Programs.
- National Guide to Educational Credit for Training Programs.

## Credit for Home Study

The university does not offer and rarely accepts credit for correspondence (home study) courses.

## **Credit for Work Experience**

No unit credit is allowed toward bachelors' degrees or master's degrees for teaching or other practical experience. Specific requirements in certain departments may be waived, however, on the basis of previous experience.

# Eligibility Index Table for California High School Graduates or Residents of California

The CSU uses only the ACT score or the SAT mathematics and critical reading scores in its admission eligibility equation. The SAT or ACT writing scores are not currently used by CSU campuses.

GPA    ACT Score    SAT Score

3.00 and above qualifies with any score

2.99	10	560
2.98	10	570
2.97	10	580
2.96	11	590
2.95	11	590
2.94	11	600
2.93	11	610
2.92	11	620
2.91	12	630
2.90	12	630
2.89	12	640
2.88	12	650
2.87	12	660
2.86	13	670
2.85	13	670
2.84	13	680
2.83	13	690
2.82	13	700
2.81	14	710

2.80	14	710
2.79	14	720
2.78	14	730
2.77	14	740
2.76	15	750
2.75	15	750
2.74	15	760
2.73	15	770
2.72	15	780
2.71	16	790
2.70	16	790
2.69	16	800
2.68	16	810
2.67	16	820
2.66	17	830
2.65	17	830
2.64	17	840
2.63	17	850
2.62	17	860
2.61	18	870
2.60	18	870
2.59	18	880
2.58	18	890
2.57	18	900
2.56	19	910

2.55 19 910

2.54 19 920

2.53 19 930

2.52 19 940

2.51 20 950

2.50 20 950

2.49 20 960

2.48 20 970

2.47 20 980

2.46 21 990

2.45 21 990

2.44 21 1000

2.43 21 1010

2.42 21 1020

2.41 22 1030

2.40 22 1030

2.39 22 1040

2.38 22 1050

2.37 22 1060

2.36 23 1070

2.35 23 1070

2.34 23 1080

2.33 23 1090

2.32 23 1100

2.31 24 1110



2.30 24 1110

2.29 24 1120

2.28 24 1130

2.27 24 1140

2.26 25 1150

2.25 25 1150

2.24 25 1160

2.23 25 1170

2.22 25 1180

2.21 26 1190

2.20 26 1190

2.19 26 1200

2.18 26 1210

2.17 26 1220

2.16 27 1230

2.15 27 1230

2.14 27 1240

2.13 27 1250

2.12            27            1260

2.11            28            1270

2.10            28            1270

2.09            28            1280

2.08            28            1290

2.07            28            1300

2.06            29            1310

2.05	29	1310
2.04	29	1320
2.03	29	1330
2.02	29	1340
2.01	30	1350
2.00	30	1350

GPA Below 2.00 does not qualify for regular admission

## AP (Advanced Placement) Exams

SJSU grants credit toward its undergraduate degrees for successful completion of examinations of the Advanced Placement Program of the College Board. Students who present scores of three or better will be granted up to six semester units (nine quarter units) of college credit for each exam (no duplicate credit granted). The number of units granted, course equivalence, and satisfaction of requirements vary.

Requires scores of 3-5 for credit to be granted

Exam	Units	Course	GE Credit and Comments
Art History	6	ARTH 70A & ARTH 70B	Areas C1 or C2 (3 units)
Biology	6	BIOL 10	Area B2 & B3 (4 units)
Calculus AB*	3	MATH 30	Area B4 (3 units)
Calculus BC*	7	MATH 30 & MATH 31	Area B4 (3 units)
Calculus BC/AB Subscore*	3	MATH 30	Area B4 (3 units)
Chemistry	6	CHEM 30A	Area B1 & B3 (4 units)
Chinese Language & Culture	6	CHIN 1A	Area C2 (4 units)
Comparative Govt & Politics	3	POLS 2	Area D (3 units)
Computer Science A	3	CS 46A	No GE
Computer Science Principles [beginning Fall 2018]	3	Elective Credit	Area B4 (3 units)
English Language and Composition	6	ENGL 1A	Score 3 = Area A2 (3 units)
English Language and Composition	6	ENGL 1A & ENGL 1B	Score 4-5 = Areas A2 & C2 (6 units)
English Literature and Composition	6	ENGL 1A & ENGL 10	Score 3 = Area A2 & C2 (6 units)
English Literature and Composition	6	ENGL 1A & ENGL 1B	Score 4-5 = Areas A2 & C2 (6 units)
English Literature and Composition	6	ENGL 1A & ENGL 10	Score 4-5 = Areas A2 & C2 (6 units), at student's request
Environmental Science	4	Elective credit	Area B1 & B3 (4 units)

European History	6	HIST 10A & HIST 10B	Areas C2 or D (3 units)
French Language & Culture	6	FREN 1A	Area C2 (5 units)
German Language & Culture	6	GERM 1A	Area C2 (4 units)
Human Geography	3	GEOG 10	Area D (3 units)
Italian Language & Culture	6	ITAL 1A	Area C2 (3 units)
Japanese Language & Culture	6	JPN 1A	Area C2 (5 units)
Latin	6	LATN 1A	Area C2 (3 units)
Macroeconomics	4	ECON 1A	Area D (4 units)
Microeconomics	4	ECON 1B	Area D (4 units)
Music Theory	6	Elective credit	No GE
Music Theory - Aural Subscore	0	No Credit	No GE
Music Theory - NonAural Subscore	0	No Credit	No GE
Physics 1**	4	PHYS 2A	Areas B1 & B3 (4 units)
Physics 2**	4	PHYS 2B	Areas B1 & B3 (4 units)
Physics C, Elec & Mag**	4	PHYS 51	Areas B1 & B3 (4 units)
Physics C, Mechanics**	4	PHYS 50	Areas B1 & B3 (4 units)
Psychology	3	PSYC 1	Area D (3 units)
Research	0	No Credit	No GE
Seminar	3	Elective Credit	No GE
Spanish Language and Culture	6	SPAN 1A	Area C2 (4 units)
Spanish Literature and Culture	6	SPAN 1B	Area C2 (4 units)
Statistics	3	STAT 95 or SOCI 15	Area B4 (3 units);
Studio Art, 2D Design	3	ART 12	No GE
Studio Art, 3D Design	3	Elective credit	No GE

Studio Art, Drawing	3 ART 24	No GE
U.S. Govt & Politics	3 Elective Credit	Area D & US 2 (3 units)
U.S. History	6 HIST 20A & HIST 20B	Areas C2 or D; & US 1 (3 units)
World History	3 Elective credit	Areas C2 or D (3 units) [beginning Fall 2019]

\*Students may receive credit for only one calculus exam.

\*\*If more than one AP Physics exam is taken then the total units granted will be 6 units, of which 4 units will apply to PHYS 2A satisfying GE Areas B1+B3, and 2 units to elective credit.

For historical AP credit by exam information, please visit the TES website and type the College Board in the institution search field.

## College Level Exam Program - CLEP

Requires score of at least 50 for subject exams. Students may not receive more than 30 units of CLEP credit.

Business	Units	Course	GE Credit (Comments)
Financial Accounting	3	Elective credit	No GE
Information Systems	3	Elective credit	No GE
Introductory Business Law	3	BUS3 80	No GE
Principles of Management	3	Elective credit	No GE
Principles of Marketing	3	Elective credit	No GE

Composition and Literature	Units	Course	GE Credit (Comments)
American Literature	3	Elective credit	Area C2 (3 units)
Analyzing & Interpreting Literature	3	Elective credit	Area C2 (3 units)
College Composition*	6	ENGL 1A	Area A2 (3 units)
College Composition Modular*	3	ENGL 1A	Area A2 (3 units)
English Literature	3	Elective credit	Area C2 (3 units)
Humanities	3	Elective credit	Area C2 (3 units)

\*Beginning July 2010 credit and GE may be earned for either College Composition or College Composition Modular, but not for both exams.

World Languages	Units	Course	GE Credit (Comments)
French Language (Level 1 = min score of 50)	6	Elective credit	No GE
French Language (Level 2* = min score of 59)	9	Elective credit	Area C2 (3 units)
German Language (Level 1 = min score of 50)	6	Elective credit	No GE
German Language (Level 2* = min score of 60)	9	Elective credit	Area C2 (3 units)
Spanish Language (Level 1 = min score of 50)	6	SPAN 1A	Area C2 (4 units)
Spanish Language (Level 2* = min score of 63)	9	SPAN 1A, SPAN 1B	Area C2 (8 units)

\*If the student receives credit for Level 2 exam, they may not receive credit for Level 1 exam in the same language.

History and Social Sciences	Units	Course	GE Credit (Comments)
American Government	3	Elective credit	Areas US 2 & D (3 units)
History of the U.S. I	3	Elective credit	Areas US 1 & D (3 units)
History of the U.S. II	3	Elective credit	Areas US 1 & D (3 units)
Human Growth & Development	3	PH 15	Area D or E (3 units)
Introduction to Educational Psychology	3	Elective credit	No GE
Introductory Psychology	3	PSYC 1	Area D (3 units)
Introductory Sociology	3	SOCI 1	Area D (3 units)
Principles of Macroeconomics	3	ECON 1A	Area D (4 units)
Principles of Microeconomics	3	ECON 1B	Area D (4 units)
Social Sciences & History	6	Elective credit	Area D (6 units)
Western Civilization I	3	HIST 1A	Area C2 or D (3 units)
Western Civilization II	3	HIST 1B	Area D (3 units)

Science and Mathematics	Units	Course	GE Credit (Comments)
Biology	6	BIOL 10	Area B2 (3 units, no lab)
Calculus	4	MATH 30	Area B4 (4 units)
Chemistry	6	CHEM 30A	Areas B1 and B3 (6 units)
College Algebra	3	MATH 18A	Area B4 (3 units)
College Mathematics	6	Elective credit	Area B4 (3 units)
Natural Sciences	6	Elective credit	Areas B1 & B2 (3 units each, no lab)
Precalculus	3	MATH 19	Area B4 (3 units)

For historical CLEP credit by exam information, please visit the TES website and type the College Board in the institution search field.

## International Baccalaureate (IB)

Students who present the following official higher level IB Exam scores of four or better, taken before college matriculation, will be granted up to six semester units of lower division baccalaureate credit. The course equivalence and satisfaction of requirements vary.

Requires score of 4-7 on higher level exams for any credit to be granted. Course equivalence dependent on major advisor for major, minor, or support credit.

Exam	Units	Course	GE Credit (Comments)
Biology HL	6	BIOL 10	Area B2 (3 units)
Chemistry HL	6	CHEM 30A	Area B1 (3 units)
Classical Languages HL	6	Elective credit	Area C2 (3 units)
Computer Science HL	6	Elective credit	No GE
Design Technology HL	6	Elective credit	No GE
Economics HL	6	ECON 1A & ECON 1B	Area D (3 units)
Geography HL	6	Elective credit	Area D (3 units)
History (any region) HL	6	Elective credit	Area C2 or D (3 units)
Islamic History HL	6	Elective credit	Area D (3 units)
Language A: Language and Literature (English) HL - beginning 2013	6	ENGL 1A & ENGL 1B	Area A2 (3 units) & C2 (3 units)
Language A: Language and Literature (language other than English) HL - beginning 2013	6	Elective Credit	Area C2 (3 units)
Language A: Literature (English) HL - beginning 2013	6	ENGL 1A & ENGL 1B	Area A2 (3 units) & Area C2 (3 units)
Language A: Literature (language other than English) HL - beginning 2013	6	Elective Credit	Area C2 (3 units)
Language B (any language) HL	6	Elective Credit	Area C2 (3 units)
Language A1 (English) HL (last exam in 2012)	6	ENGL 1A & ENGL 1B	Area A2 (3 units) & C2(3 units)
Language A1 (any other language) HL (last exam in 2012)	6	Elective credit	Area C2 (3 units)



Language A2 (any language) HL (last exam in 2012)	6	Elective Credit	Area C2 (3 units)
Mathematics HL	6	Elective credit	Area B4 (3 units)
Music HL	6	Elective credit	Area C1 (3 units)
Philosophy HL	6	PHIL 10	Area C2 (3 units)
Physics HL	6	Elective credit	Area B1 (3 units)
Psychology HL	3	Elective credit	Area D (3 units)
Social and Cultural Anthropology HL	6	Elective credit	Area D (3 units)
Theatre HL	6	Elective credit	Area C1 (3 units)
Visual Arts HL	6	Elective credit	Area C1 (3 units)

# Undergraduate Graduation Requirements

## To Qualify for an Undergraduate Degree

The University offers the following undergraduate (or baccalaureate) degrees: Bachelor of Art (BA), Bachelor of Science (BS), Bachelor of Music (BM), and the Bachelor of Fine Arts (BFA). Students must satisfy the specific degree requirements for their undergraduate major and fulfill the following University degree requirements:

1. Academic
  2. General Education (GE)
  3. American Institutions (AI)
  4. Graduation Writing Assessment Requirement (GWAR)
  5. Physical Education (PE)
  6. Residency
  7. Upper Division
  8. Comply with all Undergraduate Policies
  9. Apply for Graduation
- Information about the Commencement Ceremony and Conferral of the Degree

## 1. Academic

An "All College" average of "C or Better" (2.0), a "C or Better" average earned in all units taken at SJSU (as indicated on the transcript by "SJSU Cum"), a "C or Better" average in both the requirements for the major and the minor (if applicable), a "C- or better" in each of the four GE basic skills courses (Areas A1, A2, A3, and B4), an aggregate "C or Better" average in the nine units of upper division GE (Areas R, S, and V), and a "C or Better" in Area Z (100W), are required for graduation with a baccalaureate degree. Upon the completion of their programs, credential candidates must have a GPA of 3.0 or higher to be recommended for a credential.

A minimum of 120 semester units of credit must be earned for graduation with the baccalaureate degree. Normally, no more than four units of Individual Studies (180) and/or Directed Reading (184) may count for the baccalaureate degree. Exceptions must have approval from the major department.

All requirements listed here may be met either by passing external examinations (AP, CLEP, or IB), waiver examinations, where available, or by individual course challenge exams, or by course work. Students should note that success in a waiver examination satisfies a requirement but does not yield unit credit. For information about the examinations, contact the SJSU Testing Office.

Please check this catalog for any additional academic requirements that are specific to a undergraduate major.

## 2. General Education (GE)

A university brings together many separate areas of learning, yet it is more than just a collection of specialized disciplines. The SJSU General Education Program incorporates the development of skills, the acquisition of knowledge, and the integration of knowledge through the study of facts, issues, and ideas. Regardless of major, all who earn undergraduate degrees should share common educational experiences, as they become university scholars. In combination with major, minor, and elective courses, the General Education curriculum should help students attain those attributes found in an educated person.

- General Education Program Objectives

- General Education Requirements Overview
- General Education Policies
- General Education Academic Advisement
- Previous General Education Requirements
- Major Exceptions and Modifications for GE and SJSU Studies

### 3. American Institutions (AI)

U.S. History, U.S. Constitution, California State and Local Government. State law requires all students graduating from a CSU campus to demonstrate knowledge of these three areas, also referred to as the American Institutions and Ideals, the Title 5, or the "state code" requirement. Students may complete waiver exams or coursework to satisfy the requirements. Consult the General Education Requirements and Courses section for approved courses or the Testing Office for information about the waiver examinations. Students should consult an advisor to determine which of the various course combinations are best for their degree objectives.

American Institutions Courses

### 4. Graduation Writing Assessment Requirement (GWAR)

The CSU Graduation Writing Assessment Requirement (GWAR) states that all students must demonstrate competency in writing skills as a requirement for graduation. Information on currently available ways to meet this graduation requirement may be obtained from the Testing Office or Academic Advising and Retention Services (AARS). Graduate students should refer to the Graduate Policies - Graduation Writing Assessment Requirement (GWAR) section.

All undergraduate students must satisfy the GWAR by either:

1. passing a 100W course with a "C or better" (C- not accepted) **or**
2. by earning a waiver score on the WST.

Some majors require an Area Z Written Communication II - 100W as part of the major degree program regardless of the WST score. A student may also satisfy the GWAR while matriculated at another CSU campus.

#### Writing Skills Test (WST)

The WST has been temporarily suspended. See Temporary WST Policy for details and link to the self directed placement exercise.

All undergraduate SJSU students take the Writing Skills Test (WST). A satisfactory score on the WST (or completion of 100A with a grade of "C or better" (C- not accepted) after failing the WST) is required to enroll in the 100W course designated by the major.

#### GE Area Z Written Communication II - 100W Courses

The 100W Writing Workshop must be passed with a "C or better" (C- not accepted) when satisfying the CSU Graduation Writing Assessment Requirement.

SJSU Studies Area Z Written Communication II - 100W Courses

### 5. Physical Education (PE)

It is important that all students admitted to SJSU, regardless of major, have an opportunity to expand their knowledge and skills in physical activities. To accommodate the needs and interests of SJSU students, the Department of Kinesiology offers a diverse selection of activity courses, which have the following goals:

- To provide a fundamental understanding of the influence physical activity has on physical and mental well-being;
- To promote development of a repertoire of skills for constructive leisure activity and a physically active lifestyle important to maintaining health;
- To provide an understanding of the guidelines for developing and maintaining physical fitness throughout the lifespan;
- To provide exposure to a variety of lifetime fitness activities and sports; and
- To enhance the student's liberal arts education and develop a well-rounded individual.

All undergraduate students who matriculate at SJSU, except those majors that are exempt as listed under Major Exceptions and Modifications for GE and SJSU Studies, are required to complete two units of physical education from Kinesiology/Dance activity courses (University Policy S14-11).

Students may satisfy this requirement by either:

1. taking two distinct 1-unit activity courses, or
2. taking one single activity course of 2-or-more units.

Two units of Intercollegiate Athletics may be used to satisfy the PE requirement.

Veterans who have completed at least one year of active duty in the armed services (Army, Navy, Air Force, Marines or Coast Guard) have satisfied the physical education requirement (Credit for Military Training in Non-Collegiate Settings section).

Kinesiology activity courses at SJSU are not repeatable for credit.

To challenge a course that meets the requirement, students must consult the Department of Kinesiology at least one semester prior to graduation.

## 6. Residency

For all bachelor's degrees, including second baccalaureates, a minimum of 30 units shall be earned in residence after matriculation at the campus granting the degree. Twenty-four (24) of the units shall be upper division. Of these upper division units, twelve (12) shall be in the major and nine (9) shall be in upper division General Education. Extension credit or credit by evaluation shall not be used to fulfill any of the thirty (30) units. Winter Session for previously matriculated students earns residence credit; Open University units are not applicable toward the residence requirement.

## 7. Upper Division

At least 40 of the total units required for graduation with the bachelor's degree must be upper division. For the BA, a minimum of 12 units of upper division credit in the major is required and for the BS, a minimum of 18 units of upper division credit in the major is required. Upper division credit will be allowed by the university and applied toward the baccalaureate degree only for SJSU courses numbered 100 or above and for courses from other universities clearly designated as junior or senior level courses.

## 8. Undergraduate Policies

All Undergraduate Policies & Procedures apply to students seeking to earn a baccalaureate degree.

## 9. Apply for Graduation

- You should apply for graduation at least two semesters in advance, after completing at least 85 semester units.
- See major for specific graduation course and unit requirements.
- File your application no later than the Processing Deadline dates. Submitting your application by the priority processing deadline allows us to review your graduation requirements before Advance Registration ends for your last term of attendance.
- The graduation application processes for each program are described on Registrar's Office webpage.
- For most programs, MyProgress is used to evaluate completion of undergraduate degree requirements. Please work with your advisor to ensure that MyProgress accurately reflects all of your coursework and test credit. For programs that do not use MyProgress, a Major or minor form is needed. Contact your department office for more information on Major/Minor Forms.
- All courses and requirements must be completed by the date of graduation and transcripts received within one month after graduation. Any Incomplete (I) or Report Delayed (RD) grade must be cleared before your degree can be awarded. Once your degree has been posted, no grade changes will be made to your record.
- If you are unable to complete the coursework, or if the date of graduation is delayed, a "Graduation Date Change Form" must be submitted to the Registrar's Office. A \$10.00 administrative fee must be paid at the Bursar's Office.

Apply by the priority processing deadline dates. Applications will continue to be accepted up to the last day to add classes for the term of graduation; however, delays may occur in the initial and final evaluation of your application and names may not appear in the commencement book. If we receive your application after the final deadline date for the term for which you are applying, your application will automatically be set up for the next available graduation date. Students from specific majors can now apply online for graduation via their MySJSU. See the Graduation page for further guidance.

## Graduation Application Process

Candidates for the baccalaureate degree must file an application for graduation at least two semesters prior to the expected graduation date in order to allow time to make up any deficiencies or correct any discrepancies that may delay graduation. **At least 85 semester units** must be completed before an application for graduation may be submitted. In addition to fulfilling curricular graduation requirements, a student, to be eligible for a bachelor's degree, must have a **grade point average of at least 2.0 (C)** in each one of the following categories:

1. all college work (the overall average),
2. all units attempted at SJSU,
3. all units in the major,
4. all units in the minor (if any), and
5. all nine units of upper division GE (Areas R, S, and V).

Undergraduate students need to check with their major departments or their college success centers when they are ready to apply for graduation. Students from specific majors can now apply online for graduation via their MySJSU. See this page for guidance: Application for Graduation webpage.

Master's or Ed.D. degrees are available to eligible students through their MySJSU account. Eligible students will be messaged once they are eligible to apply online. A tutorial and video instructions for completing the application are available at the linked website under Graduation.

Those planning to attend a college or university other than SJSU during the final semester must notify the Office of the Registrar. Courses must be completed by the date of graduation and transcripts received within one month after graduation.

If a candidate is unable to complete the coursework as expected, or if the date of graduation is to be delayed for any reason, a Change of Graduation Date form must be submitted, accompanied with the fee, prior to the new expected graduation date.

## College of Business Graduation Applicants

The College of Business requires that students apply to the Jack Holland Student Success Center. Graduation deadlines and procedures differ from those established by the University. For further information, check with the Jack Holland Student Success Center, BBC 008, 408-924-3435.

## Commencement Ceremony and Conferral of the Degree

Degrees are conferred three times a year - in August, December and May - at the close of summer, fall and spring terms. The date of the diploma reflects the term during which the degree requirements were completed. **There are two graduation or commencement ceremonies each academic year, held at the close of the spring and fall semesters.** Students who have completed all requirements in the previous summer and fall semester, or expect to complete their degree requirements in the spring semester, are eligible to participate.

# Undergraduate Policies & Procedures

- Catalog Rights
- Change of Major/Degree Objective
- Classification of Students
- Continuous Attendance and Catalog Rights
- Disqualification and Probation - Undergraduate & Post-baccalaureate
- Double Major
- Double Concentration
- Graduate Credit for Units Completed as a Graduating Senior
- Leaves of Absence and Withdrawal
- Minors
- Open University - Courses
- Readmission - Former Students Returning (FSR)
- Reinstatement
- Residency
- Second or Additional Baccalaureate Degree
- Special Major
- Time Limits
- Undeclared Majors
- Units from 4-Year Colleges/Universities

Information about course credit and number, including grades, registration and attendance is found in Policies and Procedures section.

## Catalog Rights

Undergraduate students remaining in attendance in regular sessions at any California State University campus, at any California community college, or any combination of California community colleges and campuses of The California State University may, for purposes of meeting graduation requirements, elect to meet the requirements in effect at the campus from which they will graduate either:

- at the time the student began such attendance, or
- at the time of entrance to the campus, or
- at the time of graduation.

Continuous attendance is defined as enrollment in at least one semester or two quarters in each calendar year. Absence related to an approved educational leave or for attendance at another accredited institution of higher learning is not considered an interruption, providing the absence does not exceed two years. Campus authorities may authorize or require substitutions for discontinued courses and may also require students changing their major or any minor field of study to complete the major or minor requirements in effect at the time of the change. Students who do not maintain continuous enrollment will be held to any new requirements approved by the university at the time of their readmission.

## Change of Major/Degree Objective

Undergraduate students who wish to change their degree major objectives should obtain a change of major form. The form requires the approval and signatures of the appropriate university official(s). The completed form for students

with fewer than 90 or more units must be returned to the Registrar's Office. Students with 90 or more units must obtain approval signatures from the major advisor, Department Chair, and College Associate Dean of the major they wish to enter. Students changing to undeclared or undeclared-prenursing major must submit the completed form to Academic Advising and Retention Services (AARS). The completed forms need to be submitted to the Registrar's Office.

The change of major is not official until the approved form is on file with the Registrar's Office. This form may also be used to move from undeclared to a major; declare a second major, or change a minor (change of undergraduate major and minor forms or graduate change of major forms).

Students who have earned more than 90 earned units (counting no more than 70 community college transfer units) are not likely to be approved and will need to appeal.

Change of major is not guaranteed.

## Classification of Students

San José State University students are classified in the lower or upper division or in graduate standing based on the units completed. The basis of classification is as follows:

### Lower Division

Freshmen are those who have earned a total of fewer than 30 semester units. Sophomores are those who have earned a total of 30 through 59 semester units.

### Upper Division

Juniors are those who have earned from 60 through 89 semester units. Seniors are those who have earned 90 semester units or more. Second or Post-baccalaureate students are those possessing a recognized baccalaureate degree and enrolled in an undergraduate degree program. Unless otherwise noted, post-baccalaureate students follow the same policies and procedures as upper division undergraduates.

### Graduate Standing

Graduate standing is the classification for those who possess a recognized baccalaureate degree and are enrolled in graduate studies or in school credential programs.

## Continuous Attendance and Catalog Rights

Undergraduate students acquire "catalog rights" with respect to the requirements for a degree program by maintaining continuous attendance. A student who has been enrolled either at a California community college (CCC) or in regular sessions at a CSU campus for at least one semester or two quarters of consecutive calendar years is considered to be in "continuous attendance." Once a student has established his or her "catalog rights," an absence related to an approved leave of absence or for attendance at another accredited institution of higher learning (for undergraduates only) shall not be considered an interruption, providing the absence does not exceed two years.



This concept is important because continuous attendance affects the requirements a student must meet to graduate from a CSU campus. SJSU issues a new on-line catalog every year, which is the official record of all the degrees and degree requirements for the programs at SJSU. These degree requirements may change from one catalog to the next.

Students who have been in continuous attendance may meet the SJSU campus graduation requirements in force

- at the time they began continuous enrollment at a CCC or other CSU campus; or
- at the time they entered SJSU; or
- at the time they graduate from SJSU.

By maintaining continuous attendance and selecting option (1) or (2), students can be assured that their SJSU campus graduation requirements will not change. Their right to choose one of these options is called "catalog rights." SJSU will use the matriculation term (i.e., option 2) as the initial option (default) for all students; however, students transferring from a CCC or CSU campus, who would benefit from an earlier term based on continuous enrollment, may request option (1) or (3) from their departments or the Office of the Registrar.

If a student follows an earlier version of a program in which his or her department has discontinued or modified required courses, the department may authorize appropriate substitutions. If, while enrolled, a student changes major, concentration, or minor, he or she may be required to complete the major or minor requirements in effect at the time of the change. However, he or she may continue to follow the university, General Education, and mathematics and writing requirements listed in the university catalog for which "catalog rights," are claimed.

SJSU affords graduate students the same rights as indicated above with the exception of the references to CCCs.

## **Disqualification and Probation - Undergraduate & Post-baccalaureate**

Disqualified students may enroll in Professional Education programs.

### **Disqualification - Academic**

Undergraduate students on academic probation are subject to academic disqualification if their subsequent Fall or Spring term GPA falls below 2.0. Freshmen on Academic Probation are allowed a second consecutive semester of probation if their SJSU cumulative GPA is in the range 1.50 to 1.99.

An undergraduate student reinstated on probation must achieve a grade-point average of 2.0 or better each semester following reinstatement until such time as he/she has achieved a cumulative SJSU GPA of 2.00. A student who fails to do so will be disqualified again (even if this occurs prior to readmission).

Undergraduate students are eligible to repeat a limited number of courses with grades of "C-", "D+", "D", "D-", "F", "NC", "WU", or "IC" through SJSU's Open University. All work taken through Open University is included in the cumulative record and is considered in the determination of probation and disqualification. Graduate students should see the section on graduate disqualification section.

Disqualified students should also refer to the section on reinstatement.

Unless otherwise noted, post-baccalaureate (second baccalaureate) students follow the same policies and procedures as upper division undergraduates.

Academic disqualification policies were revised in University Policy S16-16 and are effective with the determination of Academic Standing at the end of the Fall or Spring semester.

## Disqualification - Administrative-Academic

A student who has been placed on administrative-academic probation may be disqualified from further attendance if:

1. The conditions for removal of administrative-academic probation are not met within the period specified;
2. The student becomes subject to academic probation while on administrative-academic probation;
3. The student becomes subject to administrative-academic probation for the same or similar reason for which he or she has been placed on administrative-academic probation previously, although not currently in such status.

When such action is taken, the student will receive written notification, including an explanation of the basis for the action.

In addition, an appropriate campus administrator may disqualify a student who at any time during enrollment has demonstrated behavior so contrary to the standards of the profession for which the student is preparing as to render him/her unfit for the profession. In such cases, disqualification will occur immediately upon notice to the student, which shall include an explanation of the basis for the action, and the campus may require the student to discontinue enrollment as of the date of the notification.

### Administrative Academic Disqualification of Students

Section 41300 in Title 5 of the California Code of Regulations permits administrative-academic probation or disqualification from academic programs in the CSU for unsatisfactory scholastic progress regardless of cumulative GPA. See University Policy S16-16 for details.

## Disqualification - Major

Each college, school, program and/or department has the option of employing a guideline for disqualification from the major. Those which opt to disqualify from the major must have published criteria for determining probation in the major, disqualification from the major, and reinstatement into the major. Such criteria may include individual course grades below "C" (2.0) or "CR", a major GPA below 2.0, or a university GPA below 2.0. Students disqualified under this guideline must be notified by the department, school or college when placed on probation in the major or disqualified by the major.

Students disqualified from their major are listed as Undeclared, report to Academic Advising and Retention Services, and may do academic work to be reinstated to the major (if permitted by guideline), or change to another major for which they are qualified. Appeals may be submitted to the Academic Disqualification and Reinstatement Review Committee via the Office of Undergraduate Education.

Impacted degree programs are those most likely to have policies for disqualification in the major, but even non-impacted programs may have such policies. The Office of Undergraduate Education will maintain current information about disqualification in the major.

## Probation - Academic

An undergraduate student is placed on academic probation if the SJSU cumulative grade point average falls below a "C" average (2.0). Students will remain on academic probation until they return to good academic standing (SJSU cumulative GPA greater than or equal to 2.0) or are disqualified. All work taken through Open University is included in the cumulative record and is considered in the determination of probation and disqualification.

Unless otherwise noted, post-baccalaureate (second baccalaureate) students follow the same policies and procedures as upper division undergraduates.

## Probation - Administrative-Academic

A student may be placed on administrative-academic probation by action of the Provost for any of the following reasons:

1. Withdrawal from all or a substantial portion of a program of studies in two successive terms or in any three terms. A student whose withdrawal is directly associated with a chronic or recurring disability or its treatment is not subject to administrative-academic probation for such withdrawal.
2. Repeated failure to progress toward the stated degree or other program objective, including that resulting from assignment of 15 units of "NC", when such failure appears to be due to circumstances within the student's control.
3. Failure to comply, after due notice, with an academic requirement or regulation which is routine for all students or a defined group of students (examples: failure to complete a required CSU or campus examination, failure to complete a required practicum, failure to satisfy GE Areas A2 and B4 by the beginning of the 2nd year, failure to comply with professional standards appropriate to the field of study, failure to complete a specified number of units as a condition for receiving student financial aid or making satisfactory progress in the academic program).

When such action is taken, the student will be notified in writing and provided with the conditions for removal from probation and the circumstances which would lead to disqualification, should probation not be removed.

## Double Major

If a student has completed the requirements for two or more majors leading to the same baccalaureate degree (e.g., two B.A. degrees or two B.S. degrees) for the same graduation application period, those majors shall be acknowledged on a single diploma and on the student's transcripts. Each major, not including courses in preparation for the major, must consist of at least 36 units for Bachelor of Science degree majors, or at least 24 units for Bachelor of Arts degree majors, units that are completely separate and distinct from the other degree. The University has the right to restrict students from pursuing double majors, particularly when resources must be equitably distributed among all students.

## Double Concentration

If a student has completed the requirements for two or more concentrations within the same baccalaureate degree (e.g., two concentrations for the same B.S. degree) for the same graduation application period, those concentrations shall be acknowledged on a single diploma and on the student's transcripts. Each concentration, not including courses in preparation for or in support of the major, generally must consist of at least 12 units that are completely separate and distinct from the other concentration. Individual degree programs may set higher limits for the number of units that are completely separate and distinct from the other concentration. Exceptions to allow two concentrations with fewer than 12 units unique to each concentration will require the approval of both the appropriate college Associate Dean and the Associate Dean for Undergraduate Education. The University has the right to restrict students from pursuing double concentrations, particularly when resources must be equitably distributed among all students.

## Graduate Credit for Units Completed as a Graduating Senior

Seniors at San José State University may petition through their major departments to receive graduate credit for 200-level (graduate) courses completed in their final two undergraduate semesters, provided the following conditions are met:

1. No more than 15 semester units are needed to complete a baccalaureate degree at San José State University.
2. None of the courses to be taken for graduate credit is required for or used to satisfy requirements of the bachelor's degree, including unit requirements.
3. The student has at least a 2.5 grade point average in all coursework in upper division standing completed at San José State University.
4. The student agrees to enroll for no more than the maximum load of 15 units for the term in which this work is taken.
5. The student has completed the graduation application check in Evaluations, Student Services Center.
6. The student agrees not to take letter-graded courses for "CR/NC" when graduate credit is requested.
7. If admitted to a graduate degree program, the student agrees that a maximum of 9 units of transfer credit of any type can be applied to a graduate program. That would include graduate credit earned through this process in addition to units taken in the period between conferral of the bachelor's degree and the start of matriculation as a graduate student. In either case, transfer credit must be approved by the appropriate advisor of the graduate program.

This policy applies solely to graduate classes taken at SJSU; courses taken at other universities or undergraduate classes taken during the undergraduate career do not qualify for transfer into an SJSU graduate program. If the student subsequently matriculates into a graduate program at SJSU and the courses are approved by the program's graduate advisor, the units will be transferred into the graduate career. The grade points will not be included in the student's cumulative grade point average after admission to the Graduate Division.

These policies also apply to students in second baccalaureate status. No courses taken while a student is in second baccalaureate status shall be awarded graduate credit unless the student is within 15 semester units of qualifying for award of the second baccalaureate degree and meets the criteria specified above (including enrollment in all units required for completion of the second baccalaureate degree).

It is recommended that students obtain permission for future graduate credit in writing before enrolling in the graduate classes by means of the Request for Validation of Transfer Credit form.

## Leaves of Absence and Withdrawal

### One Semester Leaves

Students who have attended at least one semester as a matriculated student and who are in good or probationary standing may choose to leave SJSU ("stop out") for one semester (Fall or Spring) without a formal leave. Students choosing this option must return the following semester and continue their enrollment as matriculated students. If a student does not return in the semester following the one semester leave, he or she will be required to apply for re-admission to resume study at SJSU.

The exception to this rule is that graduate students who have completed all degree requirements except their culminating experience and who either have an RP grade in a project or thesis course or will be taking comprehensive exams may not stop out but must maintain continuous enrollment (see University Policy S17-5). They can do so by taking a 1-unit special session course designed for this purpose. Students should consult their department website or this catalog under the appropriate academic program to determine the course to take. Also consult the section entitled Thesis and Project Work - RP Status - Graduate. At this stage of the graduate student career, leaves of absence other than medical or military will rarely be permitted.

Students in cohort programs may also be restricted in the semester of their return following a stop out or formal leave of absence. The individual program director or graduate advisor of the cohort program should be consulted before and after an absence to determine the semester of eligibility to return.

## Leaves of Absence

By University Policy S15-3, a formal leave of absence for undergraduate or graduate students in the first or subsequent semesters for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. Submission to the Registrar's Office (Window R at the Student Services Center) must precede the leave period except in the rarely granted cases of retroactive leaves. Leaves can be 1-4 semesters in length (with some exceptions). If a stop-out semester is taken prior to the formal leave, that semester counts in the 4-semester maximum period. Following the leave period, re-enrollment is required to avoid application for re-admission. An early return from leave must be accompanied by written notice to the Registrar's Office. Students granted a leave are guaranteed a return to their department even if it is or becomes a program restricting the number of applicants.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible.

Review University Policy S15-3, for specific information regarding:

- Categories of Leaves of Absence
- The process
- Leave Durations and Extensions
- Retroactive Leaves of Absence
- Exceptions

## First-Semester Leaves

These leaves, which are rarely awarded, are for students accepted into the university, but unable to attend because of an exceptional trauma prior to the start of instruction. Once the semester begins, this type of leave is no longer applicable.

## Medical Leaves

Matriculated students unable to continue their enrollment by reason of health are eligible for health leave as long as a minimum of one semester has been attended as a matriculated student prior to the leave. The leave request must be supported by a personal statement and documentation that details the health concern or the Healthcare Provider Verification of Medical Condition form signed by a California-registered physical or mental healthcare professional.

## Primary Caregiver Leaves

A student can take a leave when responsible for taking care of a loved one in ill health. The Healthcare Provider Verification of Medical Condition form must also be submitted to confirm the medical condition of the patient.

## Personal Hardship Leaves

If a student's scholastic performance is affected by financial hardship, changes in work schedule, or other similar circumstances, he or she may seek a leave. The personal statement must include a plan to bring oneself to financial security or to resolve the other personal hardship to be able to successfully return to one's studies.

## Military Leaves

Students called to U.S. military active duty and provided a copy of the military orders, may request a military deployment leave at any time for as long as five years.

## Planned Student Educational Leaves

An Educational Leave permits a student to be absent from regular attendance for one or more terms while maintaining continuing enrollment status. Applicants must have an intention to return to formal study within a specified period and a plan for how the time is to be spent. There must be a clear educational objective for award of the leave. At least one supporting letter from an advisor, mentor, or chair from SJSU as well as the consent of the associate dean of the college is also necessary.

The opportunity to apply for such leave is available to all non-international students except those attending their first semester and those in disqualified status.

Leave arrangements must be made in advance with the department in which the student is majoring. Undergraduate students in undeclared status will make leave arrangements with Academic Advising and Retention Services (AARS) in the Student Services Center. Graduate students will make leave arrangements with the graduate program coordinator in their department.

Leave forms and additional information is available on the Registrar's Office website.

## International Student Leaves

International students must be enrolled in a full course of study (12 units for undergraduate students; 9 units for graduate students) for two semesters annually (summer and winter breaks not included). International students are eligible for leaves of absence only when authorized by International Student and Scholar Services (ISSS). Lack of enrollment for any reason other than prevention of the ability to pursue one's studies by severe medical circumstances shall result in the student having to leave the US. If the student is able to return from abroad at the expiration of the leave period, he or she shall derive the benefits of having had the formal leave, such as avoiding the readmission process. However, other restrictions, such as in the ability to work within the US, may be imposed by federal immigration regulations. International students in need of a leave of absence must first speak with an international student advisor. Walk in advising is available at ISSS in Student Union CPGE.

## Withdrawal from the University

Students may withdraw officially from all courses during the first two weeks of instruction without academic penalty (no "W" grade on academic record). Students who have compelling reasons to cancel their registration or who wish to withdraw from all classes after the last day to drop without a "W" grade should consult their instructors, department chair or school director, academic advisor, and, for undergraduates, Academic Advising and Retention Services in the Student Services Center. Counseling & Psychological Services might also be sought for assistance.

A completed Petition for Withdrawal form for undergraduates or a Graduate Petition for Course Drop/Semester Withdrawal for graduate students must be submitted. Failure to follow formal university procedures may result in an

obligation to pay fees as well as the assignment of failing grades in all courses. Students who leave the university but who do not officially withdraw will receive a grade of "WU" (denotes failure for unauthorized drop or withdrawal) in all of their classes. No personnel actions, grades, or transcript services will be permitted until all financial obligations, such as unpaid fines have been settled. If a student fails to return the semester immediately following withdrawal, reapplication for admission at [www.calstate.edu/apply](http://www.calstate.edu/apply) will be required.

Students who receive financial aid must consult with the Financial Aid and Scholarship Office prior to withdrawing from the university regarding any required return or repayment of grant or loan assistance received for that academic term or payment period. If a recipient of student financial aid withdraws from the institution during an academic term or a payment period, the amount of grant or loan assistance received may be subject to return and/or repayment provisions.

Students holding visas must consult with ISSS (International Student and Scholar Services) regarding effects on their visa status before submitting a withdrawal petition.

Refer to the section on Continuous Attendance and Catalog Rights for information about the possible effect a break in attendance may have on requirements for graduation.

## Minors

An undergraduate student may elect to complete a minor. Also, some departments require or recommend a minor as part of the undergraduate degree.

The minimum criterion for any minor is 12 units of coursework completely distinct and separate from the course work in one's major. At least 6 units must be upper division and at least 6 units must be taken at SJSU. The student must achieve a minimum aggregate GPA of 2.0 for all coursework required for the minor (University Policy S16-4. Courses designated as "preparation for the major" may be included in the minor and are considered distinct from the major. If a minor is completed after a degree has been granted, the minor is not recorded on the student's permanent record.

Minors are only available to undergraduate students.

## Double Minors

If a student has completed the requirements for two or more minors, each minor must independently satisfy the criteria for a single minor. Additionally, each minor must include a minimum of 12 units of course work completely distinct and separate from the course work in the other minor(s).

## Open University - Courses

San José State University's Open University program permits enrollment by non-matriculated students in specified regular curriculum classes on a space available basis. Formal admission to the university is not required. Registration is not possible prior to the first class meeting. A maximum of 24 semester units may be applied toward bachelor degree and not more than nine units for a 30-unit master degree (30% of the degree program total) . Units earned in Open University may not be used to meet residence unit requirements for a degree. For undergraduate students, exceptions to these restrictions may be granted by petitions.

Regular (matriculated) students in good standing may not enroll as Open University students. Matriculated students are those who have been admitted to San José State University as a regular student for the current semester or were registered as a matriculated student in the previous semester and who have not graduated.

Disqualified students who seek reinstatement following disqualification must see their advisor to develop a plan to meet the required GPA standard for readmission to the university. In addition to reinstatement, disqualified students must reapply and be readmitted in order to become regular (matriculated) students once again.

All prerequisites, including WST are enforced when enrolling through Open University.

## International Students

International students must be regular full-time matriculated students admitted to a degree program. Enrollment in Open University does not qualify international students for the immigration document necessary to enter the United States, to transfer to SJSU from another U.S. university, or to maintain their legal F-1 status. Academically disqualified international students are eligible to enroll through Open University but must transfer to another I-20 issuing institution to maintain their F-1 student status, or apply for reinstatement to F-1 student status from the U.S. Citizenship and Immigration Services after being re-admitted to SJSU.

## Summer Session

Summer Session allows both matriculated and non-matriculated (i.e. Open University) students to enroll in summer classes at San José State University. Credit earned may be applied to residence unit requirements for previously matriculated students, and is not subject to the 24-unit limitation in applying toward bachelor's degree requirements at San José State University.

## Winter Session

Both matriculated and non-matriculated students may enroll in this session. Credit earned may be applied to residence unit requirements for previously matriculated students, and is not subject to the 24-unit limitation in applying toward bachelor's degree requirements at San José State University.

## Readmission - Former Students Returning (FSR)

Readmission is the process of reapplying to the next available application cycle through CSU Apply and it is dependent on meeting all eligibility criteria.

Those that are intending to return to SJSU whether in good academic standing or disqualified are encouraged to submit the Readmission Petition. This petition process is based upon University Policy F12-7 which outlines enrollment priorities for Former Students Returning (FSR). Former Students Returning may complete and submit this petition by the deadlines stated on the petition found on the Office of Registrar's website in order to receive priority consideration for admission prior to impaction processing for the term indicated by department administration.

### **To be eligible to submit this petition you must:**

1. Have previously enrolled at SJSU as a fully admitted and matriculated student. (Students who have completed Open University units only are not eligible.) PLEASE NOTE: Students who left SJSU due to disqualification must complete the reinstatement process prior to submitting this petition.
2. Submit an application and application fee for admission by the deadline to apply via CSU's Cal State Apply for the term indicated on this petition. No exceptions.



3. Complete all the required steps for admission by the published deadlines for the term indicated. For example, transcripts must be submitted, intent to enroll must be completed, orientation must be attended, etc.

For the most up to date readmission information for former students returning, please visit Admission website.

## Disqualified

Students disqualified at the close of their last enrollment must petition for reinstatement. See the section titled Disqualification and Probation for detailed information. Students seeking reinstatement to the university are also advised to make early application for readmission and meet all application and admission deadlines posted at <http://www.calstate.edu/apply>. Contact the Student Services Center for details, or read the Petition for Reinstatement form.

1. Students disqualified from San José State University who wish to be considered for readmission should:
  1. Read the section of this catalog titled Disqualification and Probation.
  2. Complete a Petition for Reinstatement. Petition guidelines can be found on page 1 of the petition form.

Approval for reinstatement to the University after disqualification does not assure readmission to any particular semester or specific degree objective.

2. Students who have been disqualified from the college or university of last attendance (other than SJSU) will not be considered for admission to a regular session until:
  1. They have reapplied for admission, as upper division transfers, during the next available admission application cycle and meet all posted deadlines.
  2. The official transcript of record indicates eligibility to re-enroll
  3. Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at FSR Petition.
  4. Register and attend Transfer Orientation, once re-admitted and reinstated.

## Probation

Students on probation at the close of their last enrollment may be readmitted on probation as upper divisions transfers, provided they are otherwise eligible. They must meet all application and admission deadlines. Students must furnish transcripts of any college work taken during their absence.

Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at FSR Petition.

## Good Standing

Undergraduates in good standing at the close of their last enrollment may be readmitted as upper divisions transfer provided they are otherwise eligible. They must meet all application and admission deadlines. All students must furnish transcripts of any college work taken during their absence.

Former Students Returning (FSR) should complete an "FSR petition" from SJSU in addition to applying for admission. Details may be found at FSR Petition.

## Residency

# Determination

University requirements for establishing residency are independent from those of other types of residency, such as for tax purposes, or other state or institutional residency. These regulations were promulgated not to determine whether a student is a resident or nonresident of California, but rather to determine whether a student should pay tuition on an in-state or out-of-state basis. A resident for tuition purposes is someone who meets the requirements set forth in the Uniform Student Residence Requirements. These laws governing residence for tuition purposes at the California State University (CSU) are California Education Code sections 68000-68085, 68120-68134, and 89705-89707.5, and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41900-41916. This material can be viewed on the Internet by accessing the CSU's GC Resources webpage.

Each campus's Registrar's Office is responsible for determining the residency status of all new and returning students based on the Application for Admission, Residency Questionnaire, and, as necessary, other evidence furnished by the student. A student who fails to submit adequate information to establish eligibility for resident classification will be classified as a nonresident.

Generally, establishing California residency for tuition purposes requires a combination of physical presence and intent to remain indefinitely. An adult who, at least 366 days prior to the residence determination date for the term in which enrollment is contemplated, can demonstrate both physical presence in the state combined with evidence of intent to remain in California indefinitely may establish California residency for tuition purposes. A minor normally derives residence from the parent(s) with whom they reside or with whom they most recently resided.

Evidence demonstrating intent may vary from case to case but will include, and is not limited to, the absence of residential ties to any other state, California voter registration and voting in California elections, maintaining California vehicle registration and driver's license (or California identification card), maintaining active California bank accounts, filing California income tax returns and listing a California address on federal tax returns, owning residential property or leasing an apartment where permanent belongings are kept, maintaining active memberships in California professional or social organizations, and maintaining a permanent military address and home of record in California.

Nonresident students seeking reclassification are required to complete a supplemental questionnaire that includes questions concerning their financial independence. Financial independence is required, along with physical presence and intent, to be eligible for reclassification. Financial independence is established if in the calendar year the reclassification application is made and in any of the three calendar years preceding the reclassification application the student:

- has not and will not be claimed as an exemption for state and federal tax purposes by his/her parent;
- has not and will not receive more than seven hundred and fifty dollars (\$750) per year in financial assistance from his/her parent; and
- has not lived and will not live longer than six (6) weeks in the home of his/her parent.

A nonresident student who has been appointed as a graduate student teaching assistant, a graduate student research assistant, or a graduate student teaching associate on any CSU campus and is employed on a 0.49 or more time basis is exempt from the financial independence requirement.

Non-citizens establish residence in the same manner as citizens, unless precluded by the Immigration and Nationality Act from establishing domicile in the United States.

Exceptions to the general residence requirements are contained in California Education Code sections 68070-68085 and California Code of Regulations, Title 5, Subchapter 5, Article 4, sections 41906-41906.6, and include, but are not limited to, members of the military and their dependents, certain credentialed employees of school districts and most students who have attended three or more years of high school in California and graduated from a California high school or attained the equivalent of graduation. Whether an exception applies to a particular student cannot be determined before the submission of an application for admission and, as necessary, additional supporting documentation. Because neither campus nor Chancellor's Office staff may give advice on the application of these laws, applicants are strongly urged to review the material for themselves and consult with a legal advisor.

# Appeals

Students classified as non-residents may appeal a final campus decision within 30 days of notification by the campus. For more information please visit the Residency website from the Chancellor's Office.

## Residency Determination Dates

**At San José State University, the residence determination dates are:**

Fall - September 20

Spring - January 25

Summer - June 1

The Office of General Counsel can either decide the appeal or send the matter back to the campus for further review.

Students incorrectly classified as residents or incorrectly granted an exception from nonresident tuition are subject to reclassification as nonresidents and payment of nonresident tuition in arrears. If incorrect classification results from false or concealed facts, the student is subject to discipline pursuant to Section 41301 of Title 5 of the California Code of Regulations.

Resident students who become nonresidents, or who no longer meet the criteria for an exception, must immediately notify the Registrar's Office.

Changes may have been made in the rate of nonresident tuition and in the statutes and regulations governing residence for tuition purposes in California between the time this information is published and the relevant residence determination date. Students are urged to review the statutes and regulations stated above.

# Reinstatement

## Reinstatement of Undergraduate Students After Academic Disqualification

Reinstatement is a different process from readmission. Readmission of a disqualified student is not possible unless reinstatement has been approved, but students must note that reinstatement is not readmission nor does it guarantee readmission. There may even be some situations in which reinstatement is sought with no intention of reapplying to SJSU, such as for admission to another institution or program.

In most situations, students will need to apply for readmission prior to being reinstated. All returning students must submit an application for admission to SJSU. Reapply for the next available term at Cal State Apply by the published deadline. If you miss the deadline for your desired term, you will need to submit an application for the next available term. The major listed on your application must match the major on the Petition for Reinstatement. If the majors differ, the major listed on your application will be changed to reflect the major listed on the Petition for Reinstatement. For more information regarding Readmission, see Readmission - Former Students Returning (FSR).

## Categories for Reinstatement

1. SJSU cumulative GPA 2.0 or better. This category is for disqualified students who have attended SJSU through Open University and brought their SJSU cumulative GPA up to 2.0 or better. Raising the GPA to 2.0 or better does not guarantee that a department will approve the petition. Many departments place

restrictions on reinstatement to their major degree programs. Please consult with your major advisor(s) as early as possible.

2. **Extenuating Circumstances.** Reinstatements in this category will only be granted for serious and compelling reasons that were clearly beyond a student's control. Generally, all acceptable extenuating circumstances fall into one of the following eight categories: administrative error, employment, military, natural disaster, death of an immediate family member, personal health or serious family illness, divorce, or personal/other (rarely approved). The following are not valid reasons for reinstatement under this category: Poor academic performance, non-attendance, change of major, or lack of prerequisite(s). In addition to the required documentation of extenuation, approvals will require demonstration that poor performance in a particular semester was atypical.
3. **Special Consideration.** This category is reserved for students whose petitions cannot be accommodated within the other categories. Typically, such students have spent substantial time away from SJSU since their disqualification (five years or more) and feel that their life experiences have prepared them for a successful return to school.
4. **Petitioned Grade Change.** This category is reserved for changes of grade approved under Section III (Grade Appeal) and Section IV (Change of Grade) of University Policy S09-7. If you are petitioning under this category, you must clearly explain which course grade was changed, when it was changed, and the reason for the change.

## Reinstatement Petition Deadlines and Processing

Petitions for Reinstatement are accepted and evaluated on an ongoing basis. Allow at least fifteen business days for processing after submitting the completed petition form to the Registrar's Office. You may petition under more than one category, but if you do so, your personal statement and documentation must support each category you have selected. Your petition will not be processed if you are not using the current form.

## Second or Additional Baccalaureate Degree

Effective Fall 2011: Post-baccalaureate students who have earned a first baccalaureate from a regionally accredited U.S. college or university, the second or additional baccalaureate degree will be awarded when the student has filed for graduation with Office of the Registrar and a graduation check determines that all major requirements have been satisfied. For such students, residence, university, GE, American Institutions, and PE requirements normally associated with first baccalaureate degrees are not applicable to second or additional baccalaureate degrees.

**Due to enrollment restrictions and impaction, SJSU no longer accepts applications from post-baccalaureate/second baccalaureate students. The only exception is for Nursing.**

For post-baccalaureate students who have earned a first baccalaureate from an institution that is not a regionally accredited U.S. college or university, the second or additional baccalaureate degree will be awarded when the student has filed for graduation with Office of the Registrar and a graduation check determines that all university requirements have been satisfied. To be eligible for the degree, students must complete all course work which constitutes the second or additional degree in at least two additional semesters with a minimum of 30 units of work beyond the first degree in accordance with the minimum residence requirement. Second or additional baccalaureate degree candidates must meet the academic regulations required of all undergraduate students, including the residency requirement (30 units in residence, 24 of which must be upper division, 12 in the major and 9-12 in SJSU Studies).

Coursework completed in the second or additional baccalaureate degree status will be classified as undergraduate work. Students cannot pursue a graduate degree objective and a second or additional baccalaureate degree at the same time at the university.

# Special Major

The courses offered by the Office of Undergraduate Education under University Studies (UNVS) promote leadership, integrated and applied interdisciplinary academic experiences for students.

The office also sponsors undergraduate degrees as a Special Major, which is an individually designed course of study leading to a BA or BS degree. The Special Major is designed for situations in which an existing university-level SJSU undergraduate degree major does not adequately accommodate academic or professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

The Special Major is an individually designed, interdisciplinary course of study leading to a BA or BS that gives a student who has a specific educational objective the opportunity to accomplish that goal. It is not to be used to bypass normal graduation requirements or projected programs of the University, nor to substitute for a major in which a student is having academic difficulty.

The proposed course of study must be a coherent program organized around an academic theme. Students who complete a Special Major shall be able to demonstrate: "the ability to analyze an issue or problem, integrating at least two disciplinary perspectives." In addition, students identify two or more student learning outcomes related to their specific areas of study in consultation with a major faculty advisor. They demonstrate their attainment of the learning outcomes through a portfolio or senior project completed in a capstone course.

Applicants must have both a cumulative and SJSU GPA of at least 2.75 and have sixty units (upper division standing) and at least one year of academic work still to be completed to meet minimum degree requirements. Special Majors are considered on a case-by-case basis. Approval is based on the academic merit of the proposed course of study, the applicant's proposed rationale and potential for successful completion of the program, and the ability of the university to support the proposed program. Students apply for consideration for the Special Major through the Office of Undergraduate Education, ADM 159. For more information visit Undergraduate Education's Special Majors webpage.

## Time Limit

Courses taken to meet degree requirements at San José State University are subject to a time limitation of 10 years. Students are required to meet those requirements in the major in effect no earlier than 10 years prior to receiving the degree. Students with an unusual problem may petition the major department chair for a waiver of the 10-year requirement.

Graduate students should refer to the section on Graduate Degree - Time Limits.

## Facilitating Graduation

Effective Spring 2010, any undergraduate or graduate student will be precluded from enrolling in any additional state-supported courses when that student has already met all necessary requirements for the degree for which that student is matriculated. Moreover, students who have met all requirements for graduation prior to any semester in which they are enrolled will be permitted to drop all courses for which they are registered, with little or no penalty, and to graduate at the next available date. Students who have earned more than enough units to graduate but have some remaining requirements to complete, will be advised and precluded from registering in any courses other than those required for a timely graduation.

# Undeclared Majors

The university accepts freshmen who are not ready to declare a major academic objective or who do not meet impact criteria for their desired major objective into the undeclared category.

Students selecting the undeclared category for admission must declare a degree major objective prior to attaining junior standing (earning 60 units). Students must obtain prior approval from the department in which they ultimately choose to major in accordance with university regulations.

Students who are in doubt about their degree program are encouraged to seek assistance from Academic Advising and Retention Services in the Student Services Center. AARS serves as the major department for Undeclared students and does require advising every semester. AARS also serves as the major department for Undeclared-PreNursing students.

Trained counselors are also available in Counseling & Psychological Services and in the Career Center. Students will be assisted on an individual basis with the appropriate use of vocational assessment when necessary. Staff and resources exist in the Career Center to support major and career exploration.

Undeclared students should report to Academic Advising & Retention Services in the Student Services Center for General Education and other academic advisement aimed at eventually discovering an appropriate major degree program.

# Units from 4-Year Colleges/Universities

At least 50 of the total units required for graduation with a bachelor's degree must be earned from 4-Year Colleges/Universities. This is commonly referred to as a maximum of 70 units of Community College academic work that may count toward the minimum 120 units needed for all baccalaureate degrees.

## Graduate Admissions

- Graduate Admissions and Program Evaluations (GAPE)
- Graduate Program Applicants
- CSU Application Procedures and Policies for Graduate and Post-Baccalaureate
- Prospective Students
- Requirements for Applicants
- Transcript Submission

We appreciate your interest in pursuing a graduate career at San José State University. In this section you will find out more about SJSU, the programs we offer, our application process and requirements, and important deadlines and forms related to applying for graduate admission. Some additional external links that might be of interest to prospective students are also listed, including information about housing and other available services.

## Graduate Admissions and Program Evaluations (GAPE)

GAPE processes the admission for all graduate and teaching credential programs. For most programs, the admissions process is two-step, whereby applicants apply to the university and the department program. Applicants must first pass CSU eligibility and then pass the admission criteria of the department program.

### **For new students, the GAPE office:**

- Receives all university applications, including supplemental materials such as transcripts, residency information, and declaration of finances
- Reviews documents for completeness
- Refers applications that meet minimum CSU eligibility requirements to departmental graduate advisors
- Sends out official letters of acceptance for those applicants accepted by both the university and the academic program.

For continuing students, GAPE evaluators assigned to each degree program review advancement to candidacy and graduation requests for accuracy and alignment with policies and procedures of the university and the academic programs.

### **Graduate Admissions and Program Evaluations**

Student Services Center, Window G  
408-283-7500  
graduate@sjsu.edu  
Current Graduate Students: [www.sjsu.edu/gape](http://www.sjsu.edu/gape)  
Graduate Admissions: [www.sjsu.edu/graduateadmissions](http://www.sjsu.edu/graduateadmissions)

## Graduate Program Applicants

## Doctoral, Master's, Credential, and Graduate Certificates

All graduate applicants (new and returning, including disqualified students who have an approved Program of Study agreement with their graduate department) must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply). A \$70 nonrefundable fee is required to submit the university application. Applicants for graduate programs are limited to the choice of a single program on each application.

Those wishing to take SJSU classes in any capacity other than through extended education programs (e.g., Open University) must apply for admission to the university and, for most programs, to the department offering the degree in which he or she is interested. After formal admission, the applicant must enroll in classes in the first term of admission to retain active matriculation status.

Former students who have previously attended SJSU and have had a break of two or more consecutive semesters in their enrollment (not counting summer/winter session) must apply for readmission to regain their matriculation status. A former student of SJSU, whether returning after an official leave of absence or continuing immediately after receiving a baccalaureate, master's, or doctoral degree must also apply for admission. Reapplication by a previously matriculated student also results in loss of catalog rights. Therefore, returning students are subject, at departmental discretion, to current department policies and requirements.

## **CSU Application Procedures and Policies For Graduate and Post-Baccalaureate**

All graduate applicants and post-baccalaureate (e.g., doctoral applicants, master's degree applicants, those seeking educational credentials or certificates, students who have stopped out for more than one semester, students who have been disqualified) must file a complete graduate application as described in the graduate admission materials at Cal State Apply.

Applicants who completed undergraduate degree requirements in the preceding term are also required to complete and submit an application and the \$70 nonrefundable application fee. To be assured of initial consideration by more than one campus, it is necessary to submit separate applications (including fees) to each. All CSU applications must be submitted online at Cal State Apply.

## **Prospective Students**

Students intending to pursue graduate work at San José State University may obtain pertinent information from a variety of sources. Careful reading of several publications will save time and prevent many difficulties that often arise due to lack of information. Publications recommended are:

- SJSU Academic Catalog - the listing of graduate courses offered, degree program requirements, and policies, procedures, and regulations by which the academic programs are governed;
- Office of Graduate Admissions & Program Evaluations (GAPE);
- College of Graduate Studies; and,
- various departmental publications available from department offices and advisors.

The prospective student is encouraged to consult an academic advisor for detailed information about his or her specific program of interest. Persons assigned responsibility for advising students in specific graduate programs are listed in various sections of the SJSU catalog. In addition, the Graduate Admissions website provides detailed information about university admission procedures and requirements.

## **Requirements for Applicants**



Graduate and post-baccalaureate applicants may apply for a degree objective, a credential or an advanced certificate objective. Depending on the objective, the CSU will consider an application for graduate admission as follows:

- **General Requirements** - The minimum requirements for admission to graduate and post baccalaureate studies at a CSU campus are in accordance with university regulations as well as Title 5, Chapter 1, Subchapter 3 of the California Code of Regulations.
- **Specifically, a student shall at the time of enrollment:**
  1. have completed a four-year college course of study and hold an acceptable baccalaureate degree from an institution accredited by a regional accrediting association, or shall have completed equivalent academic preparation as determined by appropriate campus authorities;
  2. be in good academic standing at the last college or university attended;
  3. have earned a grade point average of at least 2.5 on the last degree completed by the candidate or have attained a grade point average of at least 2.5 (A=4.0 grading scale) in the last 60 semester (or 90 quarter) units attempted; and
  4. satisfactorily meet the professional, personal, scholastic, and other standards for graduate study, including qualifying examinations, as appropriate campus authorities may prescribe. In unusual circumstances, a campus may make exceptions to these criteria through a formal request for special action.

Students who meet the minimum requirements for graduate and post-baccalaureate studies may be considered for admission in one of the four following categories:

- **Graduate Classified** - To pursue a graduate degree, applicants are required to fulfill all of the professional, personal, scholastic and other standards, including qualifying examinations, prescribed by the campus; or
- **Graduate Conditionally Classified** - Applicants may be admitted to a graduate degree program in this category if, in the opinion of appropriate campus authority, deficiencies may be remedied by additional preparation; or
- **Post-Baccalaureate Classified**, *e.g. admission to an education credential program* - Persons wishing to enroll in a credential or certificate program will be required to satisfy additional professional, personal, scholastic and other standards, including qualifying examinations, prescribed by the campus; or
- **Post-Baccalaureate Unclassified** - To enroll in undergraduate courses as preparation for advanced degree programs or to enroll in graduate courses for professional or personal growth, applicants must be admitted as post-baccalaureate unclassified students. By meeting the general requirements, applicants are eligible for admission as post-baccalaureate unclassified students. Admission in this status does not constitute admission to, or assurance of consideration for admission to, any graduate degree or credential program. (Most CSU campuses do not offer admission to unclassified post-baccalaureate students.)

These and other CSU admission requirements are subject to change as policies are revised and laws are amended. The CSU Application portal and the CSU Admissions website are good sources for the most up-to-date information.

## Requirements for International Students

The CSU must assess the academic preparation of international students. The designation, "international students" includes those who are seeking to hold a student visa, hold U.S. visas as students (F-1), exchange visitors (J-1), or are in other nonimmigrant classifications and have completed their prior education in institutions outside of the U.S.

The CSU uses specific requirements and application submission dates in the admission of international (F-1/J-1 seeking) students. Verification of English proficiency (see the section English Language Proficiency Requirement, financial resources, and academic performance are all important considerations for admission. World Education Services (WES) are used in lieu of academic records from international institutions. WES evaluations must be on file by the stated deadlines for the admission term. Although WES evaluations are used for the authentication of academic documents, the evaluation of credentials and GPA will be conducted by the evaluation team at the Office of Graduate Admissions & Program Evaluations (GAPE) office.

## Test Requirements

New graduate students enrolling at SJSU who matriculate with graduate degree objectives may be required to take one or more parts of the Graduate Record Examination (GRE). Students with graduate objectives in Business (MBA, MSTax, MSAcct, MSTmMgt) are required to take the Graduate Management Admission Test (GMAT). Some departments may require a locally developed qualification examination in their subject matter areas. Test Requirements can be viewed online and on graduate program web pages.

Applications and information about dates of administration for the GRE and GMAT are available in the Testing Office.

## English Language Proficiency Requirement

All graduate and post-baccalaureate applicants, regardless of citizenship, whose native language is not English and whose preparatory education was principally in a language other than English must demonstrate competence in English. SJSU does not accept English-medium of instruction as a substitute for an English-language proficiency exam such as TOEFL, IELTS, the Pearson's Test of English, or other English language proficiency tests. Letters from applicants or institutions will not be accepted. Note that scores lower than the minimum will not be accepted and waivers will not be given for lower scores. Also note that a few of our graduate programs do require a higher minimum score than what is posted by the university on Test Requirements website.

English Language Proficiency Examination	Minimum Score
TOEFL iBT (Internet-based)	80
TOEFL paper-based	550
Academic International English Language Testing System (IELTS)	6.5
Academic Pearson Test of English (PTE)	53

## Transcript Submission

Transcripts submitted for admission purposes must be official and sent directly from the originating school or college to Graduate Admissions & Program Evaluations (GAPE), San Jose State University, One Washington Square, San Jose, CA 95192-0017. International applicants must request WES evaluations to be sent directly to San Jose State University. Unofficial transcripts submitted via the student are not acceptable for this purpose. Records submitted become the property of the university and will not be released to the student. If a student does not fully complete an application and enroll, the records will be kept on file for approximately one year and then destroyed.

Graduate applicants must submit to the GAPE office one official transcript or WES evaluation from each accredited institution attended. Failure to report to the university on the admissions application all previous college-level enrollment and to provide transcripts certifying that enrollment are regarded as serious infractions of university policy and may be punishable by permanent separation from the university. SJSU transcripts for prior coursework do not need to be requested to be sent to the Graduate Admissions office. Some departments may also require applicants to file additional transcripts with their graduate advisor. Program requirements are located on departmental websites, which can be accessed by clicking on the program name at Admission Requirements for Degree Programs website.

# Graduate Studies Requirements

## To Qualify for a Graduate Degree

Students must fulfill the specific program requirements as outlined in the graduate program catalog pages. All candidates for graduation must satisfy the master's requirements or doctoral requirements as described in the linked catalog sections.

## Find Your Program

### Degree Programs by Colleges

Business | Education | Engineering | Health and Human Sciences | Humanities and the Arts | Professional and Global Education | Science | Social Sciences

### Certificates

### Credentials

### Added Authorizations

## College of Graduate Studies

**Office:** Administration Building, Room 145

**Telephone:** 408-924-2484

**Website:** [www.sjsu.edu/cgs](http://www.sjsu.edu/cgs)

### Professors

Marc d'Alarcao, Dean

Jeffrey Honda, Associate Dean of Graduate Programs

Amy Leisenring, Associate Dean of Inclusive Student Success

The College of Graduate Studies assists graduate programs and their faculty and students to succeed. The College of Graduate Studies supports program development, advising faculty in transforming existing degree and certificate programs or building new ones at the post-baccalaureate, master's, or doctoral level. The College of Graduate Studies is also a resource for students seeking scholarships or are facing special challenges such as probation or disqualification. The college helps maintain academic integrity through the fair and consistent administration of various graduate policies, including those issued by the Chancellor and by the university's Academic Senate. Its Graduate Admissions and Program Evaluations (GAPE) division supports students as they enter and work their way through various degree requirements. The College of Graduate Studies interprets and administers the policies and procedures outlined in the sections that follow.

- Interdisciplinary Studies, MA
- Interdisciplinary Studies, MS

## Degrees

## Lucas College and Graduate School of Business

The Lucas Graduate School of Business in the Lucas College and Graduate School of Business offers the following degree programs:

- Accountancy, MS
- Business Administration, MBA
  - Early Career
  - For Professionals
- Taxation, MS
- Transportation Management, MS

## Connie L. Lurie College of Education

The Connie L. Lurie College of Education offers the following degree programs:

- Child and Adolescent Development, MA
- Counseling and Guidance, MA
- Education, Curriculum and Instruction (LACES) Concentration, MA
- Education, Curriculum and Instruction with Multiple Subject Credential Concentration, MA
- Educational Leadership, Concentration in Emancipatory School Leadership, MA
- Education, Special Education Concentration, MA
- Education, Speech Pathology Concentration, MA
- Educational Leadership, EdD

## Charles W. Davidson College of Engineering

The Charles W. Davidson College of Engineering offers the following degree programs:

- Artificial Intelligence, MS
- Aerospace Engineering, MS
- Biomedical Engineer, MS (General)
- Biomedical Engineering, Biomedical Devices Concentration, MS
- Chemical Engineering, MS
- Civil Engineering, MS
- Computer Engineering, MS
- Electrical Engineering, MS
- Engineering Management, MS
- Engineering, Electronic Materials and Devices Concentration, MS
- Engineering, MS
- Human Factors/Ergonomics, MS
- Industrial and Systems Engineering, MS
- Materials Engineering, MS
- Mechanical Engineering, MS
- Quality Assurance, MS
- Software Engineering, MS

## College of Health and Human Sciences

The College of Health and Human Sciences offers the following degree programs:

- Audiology, AUD
- Kinesiology, MA (General)
- Kinesiology, Athletic Training Concentration, MA (Not Accepting Students)
- Kinesiology, Exercise Physiology Concentration, MA
- Kinesiology, Sport Management Concentration, MA
- Kinesiology, Sport Studies Concentration, MA
- Nursing, Family Nurse Practitioner Concentration, MS
- Nursing, MS
- Nursing Practice, DNP
- Nutritional Science, MS
- Occupational Therapy, MS
- Public Health, MPH
- Social Work, MSW

## College of Humanities and the Arts

The College of Humanities and the Arts offers the following degree programs:

- Art, Art History and Visual Culture Concentration, MA
- Art, Digital Media Art Concentration, MFA
- Art, Photography Concentration, MFA
- Art, Pictorial Art Concentration, MFA
- Art, Spatial Art Concentration, MFA
- Creative Writing, MFA
- English, MA
- Mass Communications, MS
- Music Education, MA
- Music, MM
- Philosophy, MA
- Spanish, MA
- Teaching English to Speakers of Other Languages (TESOL), MA

## College of Professional and Global Education

The College of Professional and Global Education offers the following degree programs:

- Archives and Records Administration, MARA
- Data Analytics, MS
- Informatics, MS
- Library and Information Science, MLIS

## College of Science

The College of Science offers the following degree programs:

- Data Science, MS
- Bioinformatics, MS
- Biological Sciences, MA
- Biological Sciences, Ecology and Evolution Concentration, MS
- Biological Sciences, Molecular Biology and Microbiology Concentration, MS
- Biological Sciences, Physiology Concentration, MS
- Biotechnology, MBT
- Chemistry, MA
- Chemistry, MS
- Computer Science, MS
- Geology, MS
- Marine Science, MS
- Mathematics, MA (General)
- Mathematics, Mathematics Education Concentration, MA (Not Accepting Students)
- Mathematics, MS
- Medical Product Development Management, MS
- Meteorology, MS
- Physics, MS
- Physics, Computational Physics Concentration, MS
- Physics, Modern Optics Concentration, MS
- Science Education, MA
- Statistics, MS

## College of Social Sciences

The College of Social Sciences offers the following degree programs:

- Applied Anthropology, MA
- Chicana and Chicano Studies, MA
- Communication Studies, MA
- Criminology, Global Criminology Concentration, MS
- Economics, MA
- Economics, Applied Economics Concentration, MA
- Environmental Studies, MS
- Geography, MA
- History, MA
- History, History Education Concentration, MA
- Justice Studies, MS
- Psychology, Clinical Psychology Concentration, MS
- Psychology, Industrial/Organizational Psychology Concentration, MS
- Psychology, Research and Experimental Psychology Concentration, MA
- Public Administration, MPA
- Sociology, MA (Not Accepting Students)

- Urban Planning, MUP

## Certificates

- Accounting Fundamentals Certificate (Graduate)
- Advanced Accounting Topics Certificate (Graduate)
- Advanced Certificate in Geographic Information Systems (GIS) Certificate (Graduate)
- Advanced Global Leadership Certificate (Graduate)
- Advanced Taxation Certificate (Graduate)
- Affordable Housing and Community Development Finance Certificate (Graduate)
- Applications of Technology in Planning Certificate (Graduate)
- Business Analytics Certificate (Graduate)
- Clinical Lab Scientist Certificate (Graduate)
- Collaborative Response to Family Violence Certificate (Graduate)
- Community Design and Development Certificate (Graduate)
- Computational Linguistics Certificate (Graduate)
- Cybersecurity Engineering Certificate (Graduate)
- Cybersecurity Foundations Certificate (Undergraduate)
- Cybersecurity: Core Technologies Certificate (Graduate)
- Environmental Planning Certificate (Graduate)
- Fundamentals of Cybersecurity Certificate (Graduate)
- Global Citizenship Certificate (Graduate)
- Graduate TESOL Certificate (Graduate)
- High Technology Taxation Certificate (Graduate)
- High-Speed and Intercity Rail Management Certificate (Graduate)
- International Taxation Certificate (Graduate)
- Mindfulness-Based Health and Human Services Certificate (Graduate)
- Professional and Technical Writing Certificate (Graduate)
- Real Estate Development Certificate (Graduate)
- Secure Software Engineering Certificate (Graduate)
- Secure Test Engineering Certificate (Graduate)
- Six Sigma Black Belt Certificate (Graduate)
- Six Sigma Green Belt Certificate (Graduate)
- Strategic Management of Digital Assets and Services Certificate (Graduate)
- Tax Practice Certificate (Graduate)
- Theory, Knowledge and Practice about Autism Spectrum Disorders Certificate (Graduate)
- Transportation Security Management Certificate (Graduate)

## Credentials

- California Library Media Teacher Services Credential
- Education Specialist Preliminary Teaching Credential: Early Childhood Special Education Credential
- Education Specialist: Mild/Moderate Disabilities Credential
- Education Specialist: Moderate/Severe Disabilities Credential
- Education, Curriculum and Instruction with Multiple Subject Credential Concentration, MA

- Multiple Subject Credential
- Pupil Personnel Services (PM-PPSC) Post-Master's Credential
- Pupil Personnel Services (PPSC) Credential
- Science Education With Single Subject Credential, MA (Inactivated F2020)
- Single Subject Credential
- Teacher Librarian Credential

## **Added Authorizations**

- Early Childhood Special Education Added Authorization
- Special Education - Autism Spectrum Disorders Added Authorization
- Supplementary Authorizations for Teaching Credential



## Graduate Policies & Policies

- Doctoral Requirements
- Master's Requirements
- Change of Graduate Program
- Change in Classification Status
- Enrollment for Culminating Experience - 1290R
- Graduation Writing Assessment Requirement (GWAR)
- Open University & Special Session
- Transfer Credit
- Repeat Policy
- Research Policies and Procedures
- Latin Honors - Not Available for Graduate Students
- Academic Standing
  - Probation | Disqualification | Discontinuation | Appeal | Reinstatement | Readmission

Information about course credit and number, including grades, registration and attendance is found in Policies and Procedures section.

## Change of Graduate Program

Official changes in graduate objectives are to be initiated at the GAPE office. If the change in objective is from one graduate program to another, or from one academic session to another, the Change of Graduate Program Petition form, available at online, must be completed. Submission of this form by the student is not, however, synonymous with approval of the change. The new department must review the student as a candidate for their program through initial communication with the GAPE office after GAPE receives their change of program request. The student should become knowledgeable of any additional admission requirements of the department being entered. Student transfer to the new program is not automatic, but instead requires approval from the incoming department. The department must follow-up with the student request by approving the Change of Program Decision Form and returning its decision to the GAPE office. The GAPE office will then update the student's status to reflect the new program change.

If a student obtains permission to change their program or concentration after advancing to graduate candidacy and the second program has different requirements than the first, then a new candidacy form (Petition for Advancement to Graduate Candidacy) with the signature of the new graduate advisor must be filed. The change of either program or concentration is made by virtue of approval of the Change in Graduate Program Petition. Graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

For a change in the culminating plan from Plan A (thesis) or C (creative project) to Plan B (project or comprehensive exams) or vice versa, no new candidacy form is needed. Any 299 units, project course units, or exam preparation course units in which a Credit was given must be retroactively dropped or, less attractive to students, changed to an NC (no credit) grade. For a switch to Plan B, project and exam preparation courses as well as additional content courses might then be required, depending on the program. These changes all require that GAPE be informed by means of filing the Request for Course Substitution in Master's Degree Program for each course change. Degree requirements for the new plan must be satisfied in full. Therefore, retroactively adding a 298 (project) class, for example, in place of a 299 (thesis) class will be permitted only if all the requirements of the project have been met. The requirements for projects include a written report in every case.

## Change in Classification Status

Notification of a change from conditionally classified to classified status within the same graduate program before advancement to candidacy is made to the GAPE office by the graduate advisor by means of the Change in Classification in Master's Program form, available at [sjsu.edu/gape/forms](http://sjsu.edu/gape/forms). However, an advisor signature on the candidacy form indicates that the advisor has checked that all conditions have been fulfilled, allowing the conditional status to be lifted and establishing the classified status without the need for the Change in Classification in Master's Program form. Graduate students must be in classified status in the graduate program to advance to candidacy. Once a student has advanced to candidacy and thus the student status has progressed to classified, any conditions discovered still unfulfilled are sacrificed and can no longer be required.

## **Enrollment for Culminating Experience - 1290R or Continuous Enrollment**

Continuous enrollment is required of all graduate students between completion of regular courses and satisfactory completion of the culminating experience. Graduate students who receive an RP (report in progress) grade in a thesis (299), project (often 298) dissertation (599), doctoral project (often 598), or other culminating experience course, as well as those who have completed course requirements but not the program comprehensive examination, may maintain enrollment by registering for other courses or by registering for one unit of University Studies (UNVS) 1290R or departmental 1290R (Thesis/Project Supervision) through Special Sessions for each Fall and Spring semester until completion. Effective with the Fall 2018 semester, graduate students preparing for comprehensive exams or completing a courses-only program culminating experience are included in this policy.

Graduate students who have completed their course work but are still working on their culminating experience (thesis, project or comprehensive exam) no longer may stop out for even one semester, and they cannot be granted leaves of absence for any reasons other than military leave and severe medical issues.

Departments may require repeated enrollment in project, thesis, or comprehensive exam-preparation classes each semester until completion, thereby precluding the need for the 1290R course. There are no formal class meetings for this course. Failure to register for this unit will result in a hold on graduation until the unit is retroactively added. At that time, late fees will apply.

## **Registration for 1290R**

Registration for the 1-unit UNVS 1290R or departmental 1290R course must be delayed to give students the opportunity to enroll in other courses. Students who have an RP grade in a culminating experience course, a graduation date in the current or future semester, and no enrollment in other courses will be notified after the add period by the Registrar's Office and given appointments for the UNVS 1290R or departmental 1290R. Graduate advisors of courses-only programs and those with culminating experiences not attached to courses with the RP grade option will need to generate appointments by submitting student names to Graduate Studies. Students with appointments may then register online through MySJSU. No permission or add code is needed. Students will have until the last day of course instruction to register for the course. To maintain their immigration status, international students are encouraged to add the course as soon as their appointments are available. In each subsequent fall and spring semester, students still completing their culminating experience will have to register for this course and will be precluded from registering for any other. The RP grade in the project or thesis course remains on the official record until a culminating memo is submitted by the graduate advisor to the Office of Graduate Admissions & Program Evaluations (GAPE), the course instructor in which the RP was received has petitioned for a grade change, and the student has submitted the online graduation application through their MySJSU account.

The Associate Dean of Graduate Studies is officially the instructor of record in all 1290R courses and is responsible for assigning the grades as well as establishing the courses with the College of Professional and Global Education each semester. Departments should not attempt to add 1290R courses on their own. To retroactively add a 1290R course requires the student to complete an online Enrollment & Grade for Retroactive 1290R Requests form, available at [www.sjsu.edu/registrar/forms](http://www.sjsu.edu/registrar/forms), and payment of associated tuition and fees.

More details on the continuous enrollment policy may be found in University Policy S17-5. Details on the RP (Report in Progress) administrative grading symbol may be found in University Policy S09-7.

For more information on required enrollment for culminating graduate students - 1290R, please visit the Graduate Studies website.

## Graduation Writing Assessment Requirement (GWAR)

The CSU Graduation Writing Assessment Requirement (GWAR) states that all students must demonstrate competency in writing skills as a requirement for graduation.

Graduate students enrolled in their program prior to the Fall 2020 semester may meet their GWAR requirement in one of four ways following rescinded University Policy S94-7 :

- Satisfactory completion of a baccalaureate degree at a CSU campus;
- Satisfactory completion of a GWAR course
- Approval by the Associate Dean of Graduate Studies of a well-written, professional (peer-reviewed) publication, graduate thesis or dissertation in which the student was the sole author;
- Satisfactory completion of a discipline-specific upper-division writing course at another university judged by the Associate Dean of Graduate Studies to be equivalent in content and writing requirements to the SJSU 100W. To satisfy the requirement under this category, students are required to submit to their graduate advisors a transcript (unofficial acceptable) showing completion of the substituting course and the grade received (a "B" or better is required); the syllabus of the substituting course; and original, single-authored writing samples from the course, including especially a large term paper from the course with instructor feedback visible. If the graduate advisor approves of the substitution for an SJSU GWAR course, he or she would then petition the Associate Dean of Graduate Studies on behalf of the student. Students may not petition College of Graduate Studies directly.

Graduate students enrolling in the Fall 2020 semester or later must follow University Policy S19-3 which requires that all graduate students demonstrate competency in written English for advancement to candidacy within a master's program. Graduate students may satisfy the Graduation Writing Assessment Requirement (GWAR) in one of three ways:

- Satisfactory completion of an approved College of Graduate Studies GWAR course of at least three units in which a major written report is required. The course should be completed prior to advancement to candidacy.
- Approval by the College of Graduate Studies of a professional publication written in English for which the candidate was a primary author.
- Completion of a master's or doctoral program with a substantive writing requirement at an accredited university in which the primary language of instruction is English unless a department requires additional documentation of writing proficiency.

Candidates should be aware that each department may establish its own criteria within these policy guidelines, and candidates must abide by the department decision. Thus even if a student has satisfied one of the criteria above, the department must approve the waiver and can require that its GWAR-satisfying course still be taken. Waiving the

program GWAR requirement will require the addition of an elective selected in consultation with the graduate advisor. Graduate courses cannot be taken for credit by examination.

## Open University & Special Session

Also see the Alternative Enrollment Programs section of the catalog.

### Open University

Open University, often known elsewhere as extension, is set up primarily as an option for members of the surrounding community to take college courses. It is attended by non-matriculated post-baccalaureate students who may hope to gain future admission to one of the SJSU graduate programs or who wish to take classes to prepare for a professional degree program, such as medicine. It can also be part of the program-of-study mechanism by which scholastically disqualified SJSU graduate students can gain reinstatement to the graduate school (see section on Program of Study). Non-matriculated students who enroll only for Open University courses are reminded that they must apply for admission to the university and graduate program and complete other details of matriculation if they wish to obtain a degree or credential from SJSU. Enrollment in Open University courses is governed by specific policies, as follows:

- Fees differ from those in regular and special sessions.
- Open University enrollment in a given graduate class is permitted only with instructor and department chair or school director approval and only after reasonable efforts are made to provide full enrollment opportunities to regularly matriculated students.
- Matriculated students may not take Open University courses. This restriction also applies, without special permission of the Associate Dean of Graduate Studies, to formerly matriculated students who have gone out of matriculation by stopping out or being disqualified.
- Letter-graded or CR/NR courses may be taken through Open University with the exception of supervisory courses, such as independent study courses and project or thesis courses.
- Either regular (state-support) or special (self-support) classes may be taken through Open University if all other requirements are met.
- Open University course enrollment in 200-level courses is only open to holders of baccalaureate degrees who meet course prerequisite requirements. Neither disqualified students nor those denied admission into a graduate program for reasons other than limitations imposed by enrollment caps are permitted to enroll in 200-level courses.
- Open University courses do not qualify for residence credit toward a master's degree, as specified by Title 5.
- Upper-division (100-level) and graduate (200-level) Open University units up to 30% of the degree program total and taken prior to matriculation may be applied to a master's degree program with the consent of the program's graduate advisor. Note that these units are considered to be transfer units into the master's program, and the allowable total of all transfer units is 30%, with the exception of transfers from credential programs into master's programs (40% of degree unit total allowed, i.e., 12 units in a 30 unit master's program). Upper-division courses taken as part of a program of study for reinstatement after disqualification may be applied to the graduate program if they were already present on the student's candidacy form or were otherwise approved by the graduate advisor.

Open University courses are counted toward the cumulative GPA. Those taken in the post-baccalaureate career (before matriculation and enrollment in the semester admitted) are also counted in the candidacy GPA if transferred into the graduate program. Because the university cannot determine whether the courses are part of the degree program until they appear on the candidacy form, it is not until advancement to candidacy that the grade points are transferred. Thus a student may conceivably be disqualified before advancing to candidacy even if courses to be transferred would have raised the GPA to a passing level.

For further information concerning special session or Open University offerings and policies, inquire at the College of Professional and Global Education (Formerly College of International and Extended Studies), One Washington Square, Student Union, San Jose, CA 95192-0135, call at 408-924-2670, or [www.sjsu.edu/cpge](http://www.sjsu.edu/cpge).

## Special Session

Special session is often confused with Open University (see section below). Although both are administered by the College of Professional and Global Education (Formerly College of International & Extended Studies), special session programs and open university course offerings are different means for registering into graduate courses.

Special session classes are offered via different delivery modes or by schedules different from the regular session term. Matriculation is required for special sessions courses. Credit earned in 100-level, 200-level, or 300-level special session courses at SJSU is entered on the matriculated graduate student's record as graduate credit, provided the student holds an acceptable baccalaureate degree from an accredited institution at the time of enrollment in the courses. Courses taken through special session receive residence credit.

For further information concerning special session and policies, inquire at the College of Professional and Global Education (Formerly College of International and Extended Studies), One Washington Square, Student Union, San Jose, CA 95192-0135, call at 408-924-2670, or [www.sjsu.edu/cpge](http://www.sjsu.edu/cpge).

## Facilitation of Graduation

Undergraduate or graduate students are precluded from enrolling in any additional state-supported courses when that student has already met all necessary requirements for the degree for which that student is matriculated. Moreover, students who have met all requirements for graduation prior to any semester in which they are enrolled will be permitted to drop all courses for which they are registered, with little or no penalty, and to graduate at the next available date. Students who have earned more than enough units to graduate but have some remaining requirements to complete will be advised and precluded from registering in any courses other than those required for a timely graduation.

## Repeat Policy

University Policy F08-2 on course repetition stipulates that graduate students may repeat a maximum of 9 units in their graduate careers, regardless of the number of units required in a degree program. This total does not include classes the catalog indicates are repeatable for credit. If within this limit, a graduate student may repeat any 100-level or 200-level course in which a grade below a "B," including an "NC," "WU" or "IC," was received in the first attempt. The student's academic record will indicate the course repeated and the grade earned. Units attempted and grade points will be included in the student's cumulative GPA; therefore, the course grades will effectively be averaged. The additional units gained by repeating the course will not contribute to the degree total. Graduate students and 200-level courses are not eligible for "grade forgiveness."

Courses on the candidacy form in which a grade of any kind has been earned cannot be removed from the candidacy form; the grades will be averaged with other courses even when compensated for by additional coursework. Courses listed on the candidacy form in which grades of "NC," "I," "IC," "RP," "RD," or letter grades below "C" have been recorded will prevent graduation until completed, repeated, or compensated for in another way. This is also true of courses in programs that have special grade requirements beyond those of the university standard, e.g., requirement of "B" grades in all core classes.

SJSU (only) courses can be repeated when they have gone beyond the seven-year time period for completion of master's or doctoral degree requirements. Teaching credential courses cannot be repeated if the 7-year limit has been broached. See the section Seven-Year Time Limit on Courses in Graduate Degree Programs.

See Repetition of Courses for more information about registering for a class you are repeating.

## Transfer Credit

Students who have completed coursework at other regionally accredited colleges or universities may be eligible to apply credit toward master's degree requirements at SJSU. To be transferable, the coursework must have been taken at a regionally accredited U.S. university, or accredited international institution, whether through regular session, special session, online programs, or extension. In the case of extension or online courses, the graduate advisor must petition the Associate Dean for the College of Graduate Studies on behalf of the student and provide documentation that the courses have been approved for degree credit at that institution. To be transferable, courses must not have been in professional development courses. They must have been at the upper-division or graduate level and must have been taken within seven years from the time of posting of the grade for the course to the date of award of the graduate degree from SJSU.

As stipulated in University Policy S13-8, not less than 70% of course work required for the master's degree must be completed in residence. Therefore, for example, a maximum of 9 units can be transferred into a 30-unit graduate program. This total includes all transferred classes, including those from Open University and the SJSU undergraduate career. Transfer work from any source may be applied toward the degree program only if it is approved by the graduate advisor. Those taken at SJSU, whether through Open University or as a matriculated undergraduate, may be revalidated in accordance with the rules on revalidation if surpassing the 7-year limit on course viability. Those taken at any institution other than SJSU cannot be revalidated.

No courses may be transferred if taken during a graduate (master's, PhD, or other) degree program in which the degree was awarded, whether used to satisfy requirements for those degrees or not. The only exception to this rule is that letter-graded courses from previous master's degree programs taken at SJSU may be included up to a total of one third of the current degree total (i.e., 10 units in a 30-unit program) if approved by the graduate advisor. If a course was taken as part of a prior graduate degree program that was not finished (thus there was no award of degree), then the courses qualify for transfer credit.

For university approval of transfer units up to the 30% limit, the courses are entered on the Petition for Advancement to Graduate Candidacy in the Transfer Course section. The graduate advisor has full authority to allow or disallow transfer credit for those courses that meet the university requirements of eligibility. The signature of the graduate advisor on the candidacy form is sufficient to indicate departmental approval of the courses without additional forms. If the courses meet all of the requirements stipulated above, the university will accept the courses for advancement to candidacy and for graduation requirements. Credit is awarded for transferred courses of all categories, but grade points are not included in the cumulative GPA for transferred courses other than those from the SJSU Open University program; therefore, the cumulative grade-point-average (GPA) calculation will not include those units nor will the GPA calculation for advancement to candidacy or graduation.

Official transcripts for all courses transferred from another university, if taken prior to application to the SJSU graduate school, must have been submitted directly to the GAPE office during your initial application to SJSU. Failure to have provided those transcripts precludes the later transfer of the courses. If the courses were taken or grades for them were posted after the application process, then the transferred courses must subsequently be verified by official transcripts sent to GAPE from that university at the time of transfer; failure to provide transcripts will result in a denial of advancement to candidacy and/or award of degree.

## Research Policies and Procedures

# Institutional Review Board

## Human Subjects Research

The IRB reviews all research protocols involving human subjects. Students and faculty are required to submit a research protocol for IRB review and approval before beginning any data collection from participants if their work entails research involving human subjects. Instructions, forms, and templates can be found at [www.sjsu.edu/research/irb](http://www.sjsu.edu/research/irb).

### Office of Research

IRB Coordinator  
408-924-2479  
[www.sjsu.edu/research](http://www.sjsu.edu/research)

## Animal Research Requirements

If the dissertation includes research activities involving vertebrate animals or select invertebrate species, the care and use of animals or their tissues must be approved by the SJSU Institutional Animal Care and Use Committee (IACUC). Information concerning IACUC requirements and procedures is available from the IACUC Coordinator and online at <http://www.sjsu.edu/research/iacuc/index.html>. Animal research approval from SJSU must be obtained prior to data collection even if the work is done in conjunction with another institution from which approval has been granted. SJSU prohibits retroactive approval of animal research that is considered ongoing or completed. The official letter of protocol review, obtained with IACUC approval, must be submitted along with the dissertation whether as an appendix or as a separate document. Failure to submit the necessary documentation can result in a delay or denial of the dissertation by the College of Graduate Studies.

## Copyright Permission

If a student copies a figure, table or a significant section of someone else's work and it is believed that the use of these copyrighted materials is beyond that permitted by "fair use," the student will be required to obtain separate written permission letters from the publishers or authors of the works cited. It must be indicated in the text or figure caption within the dissertation that the material is "copied with permission." The student should plan well so that permission letters will be received in time. If letters of permission are not submitted with the final copies of the dissertation, the College of Graduate Studies will not approve the dissertation, and UMI will not microfilm the work.

The permission letters should be included with the initial submission of the thesis as well as when the thesis is submitted for publication. For questions about the process, including whether permission is required for a particular insertion, contact the thesis coordinator at the College of Graduate Studies.

## Latin Honors

## Not Available for Graduate Students

Latin honors are reserved at SJSU, as at most universities, for those earning baccalaureate degrees. Because graduate students are required to maintain a minimum cumulative GPA of 3.0, all finishing graduate students would

receive honors. Thus they are not considered for receipt of Latin honors. Individual programs are free to award other forms of recognition to outstanding graduate students. For more information, see University Honors at Graduation.

## Academic Standing

Probation | Disqualification | Discontinuation | Appeal | Reinstatement | Readmission

### Probation

#### Academic

Graduate students enrolled in a degree program, credential program or advance certificate program are subject to academic probation if the SJSU cumulative GPA falls below 3.0 (grade of "B" on a 4.0-point scale) in all units attempted subsequent to matriculation in either conditionally classified or classified status. Courses taken at the lower-division level will be listed on the transcript but cannot be used for graduate degree credit and are not included in the GPA computation. Courses taken through SJSU Open University before matriculation will also be listed on the transcript and may, with advisor consent on the candidacy form, be used toward the graduate degree if adhering to the transfer course limitation and residency requirement. They will be figured into the GPA for advancement to candidacy and for the candidacy GPA computation at the completion of the program. All SJSU Open University course grades will be included in the SJSU Cumulative GPA, which is used to determine academic standing for degree conferral. However, courses transferred into the graduate program from other institutions or from the SJSU undergraduate career will not count in the cumulative GPA computation.

At the completion of the degree program, should the SJSU cumulative GPA fall below 3.0 at the same time that the candidacy GPA is above 3.0, the student's academic standing will reflect the former only. In this unusual circumstance, the student or program must make the Associate Dean of Graduate Studies aware of this discrepancy.

Each Winter, Spring, Summer and Fall term while on probation, the student must achieve a 3.0 GPA in the semester's work to avoid academic disqualification. To avoid disqualification, at least one graded course must be taken each Spring and Fall semester, while on probation. The student remains on continued probation as long as each individual term's work is equal to or above the 3.0 threshold but the overall GPA is still below 3.0. Probation is cleared when the SJSU cumulative GPA rises to 3.0 or better in any subsequent Winter, Spring, Summer or Fall term.

Graduate students are eligible to repeat courses with letter grades lower than "B" or with grades of "NC," "WU," or "IC" up to a total of 9 units, no matter how many units there are in the individual degree program. Exceptions may be made by the Associate Dean of Graduate Studies in this course repetition limit with respect to high unit clinical or field courses, as long as the exceptions do not violate probation and disqualification policies established in the major (see sections on Administrative Academic below and Disqualification (Administrative)). Repeated and elective courses may not be taken through Open University. Elective classes already taken in the degree program may be added to the candidacy form by means of the Request for Course Substitution in Graduate Degree form. However, the two courses will be grade averaged, as courses, once graded, cannot be removed from the candidacy form. The total allowable units that can be added as either repeated classes or substituted electives can be no greater than 30% of the total number of units for the individual degree for the entire graduate career. To clarify, in a 30-unit degree program, a student may add electives or repeat classes only up to a total of 9 units.

### Failure to Achieve a 3.0 Grade Point Average on Completed Graduate Degree Program



If a master's candidate does not complete the graduate degree program with a minimum 3.0 GPA in both the overall coursework and the candidacy coursework, the student's major department may terminate the candidacy or permit completing additional courses in an attempt to raise the GPA in the program to the minimum 3.0 threshold. Elective courses may be added to the candidacy form for grade averaging if approved by the graduate advisor. Alternatively, courses can be repeated up to a limit of 9 units (per University Policy F08-2. In the entire graduate career, the combination of added elective units and repeated units cannot exceed 30% of the total number of units in the major. Failure to raise the candidacy and cumulative GPA to 3.0 after completing this additional coursework will result in a termination of the student's candidacy and an inability to earn the degree. Thus the student would be academically disqualified without the ability to be reinstated by normal means.

Credential candidates who fail to achieve a 3.0 GPA upon completion of the credential program will be precluded by the department from attempting additional coursework and therefore not be recommended for an award of a credential by the State of California.

## Administrative Academic

Per Sections 41300.1 Title 5, graduate students may be placed on probation or may be disqualified by appropriate campus authorities for unsatisfactory scholastic progress regardless of cumulative grade point average or progress points. Such actions shall be limited to those arising from repeated withdrawal, failure to progress toward an educational objective and noncompliance with an academic requirement..." Therefore, regardless of the cumulative GPA, administrative academic probation or disqualification can be imposed by the university.

Most instances of administrative academic probation and disqualification result from probation in and disqualification from the graduate major. Thus despite maintaining an SJSU cumulative GPA of 3.0 or better, a graduate student's academic performance in the major may fall below the minimum standards established in that major. In these cases, while students remain in overall good standing with the university, they are subject to probation in and disqualification from the graduate major. Departments have an obligation to inform students of these policies.

In most cases, a direct reassignment from good standing in the major to disqualification from the major is prohibited. In other words, at least one semester of probation in the major is required prior to disqualification from the major. By the same token, there must also be a way of returning from the probationary status to good standing. Exceptions to these regulations are described below under Disqualification - Administrative Academic.

The department and university may impose administrative academic probation for any of the following reasons:

1. Failure to progress satisfactorily toward the degree or other program objective, including that resulting from assignment of 9 units of "NC," when such failure appears to be due to circumstances within the student's control, failure to pass writing requirements, or failure to take a reasonable number of courses in the student's own degree program.
2. Failure to comply, after due notice, with an academic requirement or regulation that is routine for all students or a defined group of students (examples: failure to complete a required CSU or campus examination, failure to complete a required practicum, failure to make satisfactory progress in the academic program, failure to put together a graduate committee of qualified individuals in programs that require a committee).
3. Failure to achieve a set of academic standards of the department.
4. For example, a program might require the achievement of grades of "B" in every class or in particular classes with a stipulated number of repetitions permitted. Similarly, an acceptable standard would be to require a "CR" in field, student teaching, or internship courses with a stipulated number of "NC" grades allowed for repetition.
5. Programs may restrict a student to two attempts of any course offered by the program. Cohort programs may require that a minimum number of courses/units be taken each semester in order to best use resources or to ensure that the program is completed while student knowledge is still current. A maximum number of units can be set for students on probation.

When such action is taken, the student will be notified in writing and provided with the conditions for removal from probation and the circumstances that would lead to disqualification should probation not be removed.

# Disqualification

## Academic

A graduate student who is on academic probation is academically disqualified if he or she fails to earn a 3.0 or better term GPA each Winter, Spring, Summer or Fall term until the required 3.0 cumulative GPA is established. This requires enrollment in at least one letter-graded course each Spring or Fall semester (but not Winter or Summer term) that the student is on probation. Teaching credential candidates are subject to the GPA dictates of the State Department of Education. Credential candidates will be notified of those requirements by their department within the College of Education in which they are seeking their credential preparation. At this time, the minimum GPA requirement matches that of the graduate division as a whole, that is, the 3.0 level. Credential candidates who fail to meet this standard are academically disqualified and are not eligible for reinstatement. Similarly, if at the time of completion of all credential requirements, a student's candidacy GPA or cumulative GPA is below the 3.0 threshold, the student is academically disqualified and will not be afforded the option of repeating credential courses to raise the GPA.

For master's candidates who complete all minimum degree requirements but fail to achieve a 3.0 GPA, the department may exercise its option to terminate the candidacy (see Failure to Achieve a 3.0 GPA on Completed Graduate Program). The department may also allow the student to repeat classes within the university limit of 9 units per graduate career or to add (via grade averaging) elective courses. The total units in the added courses and repeated courses (100 and 200 level coursework) cannot exceed in the entire graduate career 30% of the units of the degree program's total. If a student fails to raise the candidacy and SJSU cumulative GPA to 3.0 after these measures, he or she is academically disqualified without a possible reinstatement.

With the exception of the scenario described in the paragraph above, reinstatement can be applied for (via the Graduate Petition for Reinstatement; see Reinstatement - Disqualification - Graduate) following a first disqualification at the graduate level. Departments have the option of reinstating or refusing to reinstate, but if the graduate student does garner all signatures of approval on the petition and fulfills the requirements for reinstatement (e.g., through passage of the Program of Study), then reinstatement will be granted; in addition, if reinstatement is achieved, the student is guaranteed readmission to the program when he or she reapplies for a future term.

After a second disqualification at the graduate level, reinstatement will not be granted and the student's candidacy will be terminated.

## Administrative Academic

Upon notice by the coordinator of the graduate program in which a student has been placed on administrative academic probation, the student may be administratively academically disqualified from further attendance by the Associate Dean of College of Graduate Studies if the conditions for removal of administrative academic probation are not met within the period specified.

As mentioned in the section on administrative academic probation, a probationary period must normally precede a disqualification. However, exemptions to this general rule include the following:

1. In clinical courses, laboratory courses, student teaching assignments, or other types of programmatic requirements, there may be such serious concerns about the safety or well-being of the student, other students, clients, patients, and so forth that repetition of the courses is not reasonable. For such courses or programmatic experiences, departments may establish "no repeat" policies, i.e., a course may not be repeated if not passed on the first attempt. In clinical or lab settings in which safety or well-being are severely compromised, an instructor may disenroll a student from the course, which may lead to disqualification from the major.

2. A program can disqualify a student without a probationary period for behavior that fails to comply with professional standards of conduct appropriate to the field of study. This conduct could occur in or out of class. Examples include threatening behavior, repeated disruptions of classes that interfere with the educational opportunities of other students and repeated acts of professorial disrespect, badgering, rudeness, interruptions and verbal or written abuse.
3. Conditional acceptance to a program is, in effect, acceptance under probation in the major. Typically, a specified set of courses or requirements must be passed prior to attaining good standing in the program. There may be time limits or unit limits established to satisfy the conditions, which, if not met, may lead to disqualification from the major degree program without an intervening term on explicit probation. Cohort programs must provide in their policies a reasonable accommodation for students who must stop out for legitimate reasons.

In most cases (unless stipulated by the program in writing), graduate students administratively academically disqualified from their majors have no means for reinstatement. However, unlike academic disqualification, reinstatement and readmission are not absolutely necessary for continuation at the university after administrative academic disqualification. If a student finds another program willing to accept him or her within one semester, an Application for a Change of Graduate Program form can be filed with the office of Graduate Admissions and Program Evaluations and enrollment can resume following formal acceptance into the new program. SJSU does not allow an "unclassified status" at the graduate level, and thus a student must be accepted into some program to register for courses at the university other than through Open University. If more than one semester elapses from the point of disqualification, the student will be considered to have stopped out of enrollment and will be required to apply for readmission if a second department indicates willingness to allow a transfer.

## International Students

To maintain their legal status in the U.S., international students must be matriculated within a degree program. After disqualification from SJSU, international students must transfer to another institution to maintain their legal status. Enrollment in Open University alone does not qualify them for the immigration document needed to remain in the U.S. Disqualified international students who have transferred out to another university may enroll in Open University for a program of study in order to be academically reinstated but must seek immigration reinstatement from SJSU. Disqualified international students must speak with an international student advisor as soon as possible.

## Discontinuation from the University

Students who fail to register for classes in two successive semesters, and thus stop out, are placed in a discontinued status that requires readmission to the university and program before being permitted to enroll again. This policy also applies to students who leave the university after having registered for classes but who do not officially withdraw or withdraw from all courses after the semester drop deadline. The courses will be assigned a grade of "WU" (denotes unauthorized drop or withdrawal). No personnel actions, grades, or transcript services will be permitted until all financial obligations, such as unpaid fines, have been settled. If the student fails to return the semester immediately following withdrawal, reapplication for admission will be necessary at [www.calstate.edu/apply](http://www.calstate.edu/apply).

The exception to this policy is for students who file for a formal leave of absence. See the description of the options and regulations governing leaves under Leave of Absence - Master's Requirements or Doctoral Requirements sections.

## Appeal of Disqualification and Probation

Students may appeal their probation or disqualification by petitioning the Academic Disqualification and Reinstatement Review Committee after the programmatic appeal process has been exhausted. The student should begin the appeal process by consulting with the graduate advisor. The appeal, in writing to the Associate Dean of

College of Graduate Studies, should contain a description of actions by the department contrary to departmental rules or university policy or an explanation of extenuating circumstances that led to the action.

The student must present documentation- for example, physician's letters, police reports, and/or transcripts- that the circumstances were beyond his or her control, that they disrupted previously satisfactory scholastic performance, and that they no longer affect the student's academic work. The Associate Dean of Graduate Studies has the authority to deny further appeal on the basis of reasonable grounds for appeal. If grounds exist, a subcommittee of the Academic Disqualification and Reinstatement Review Committee will in turn hold a formal hearing to confirm or rescind the probation or disqualification.

## Reinstatement for Disqualification

Following notice of disqualification, the graduate student should obtain a Graduate Petition for Reinstatement. The form indicates that there are four categories by which a student can be reinstated: extenuating circumstances, special consideration, grade change and program of study.

Graduate students may appeal their probation or disqualification by petitioning the Academic Disqualification and Reinstatement Review Committee after the programmatic appeal process has been exhausted. The student should begin the appeal process by consulting with the graduate advisor. The appeal, in writing to the Associate Dean for the College of Graduate Studies, should contain a description of actions by the department contrary to departmental or university policy or an explanation of extenuating circumstances that led to the action. The student must present documentation- for example, physician's letters, police reports, and/or transcripts- that the circumstances were beyond his or her control, that they disrupted previously satisfactory scholastic performance, and that they no longer affect the student's academic work. The Associate Dean for the College of Graduate Studies has the authority to deny further appeal on the basis of reasonable grounds for appeal. If grounds exist, a subcommittee of the Academic Disqualification and Reinstatement Review Committee will in turn hold a formal hearing to confirm or rescind the probation or disqualification.

## Raising the SJSU Cumulative GPA to 3.0 or Better

The SJSU cumulative GPA can be raised through SJSU Open University coursework as part of a Program of Study (see below) if the graduate advisor approves of the transfer of the upper-division classes into the degree program. In addition, retroactive (after the last day of classes) actions by students, such as completion of Incomplete ("I") grades or course drops, can also raise the SJSU cumulative GPA.

## Extenuating Circumstances

Similar to the appeal process for probation or disqualification, a request for reinstatement due to extenuating circumstances must meet the conditions indicated above for that process. The petition is submitted along with evidence of the circumstances and their role in the decline in scholastic performance. After securing the requisite signatures, the form is submitted to the Associate Dean for the College of Graduate Studies for a final decision.

## Special Consideration

This category is reserved for individuals who have been absent from the university for five or more years and who have in that time achieved a renewed sense of purpose through job activities or through increased maturity that would prompt a greater chance of academic success. Often this request is accompanied by a switch in major from that in which the disqualification occurred.

## Change of Grade

If a grade that was changed results in an increase in the semester GPA or in the cumulative GPA to 3.0 or above, the student may qualify for reinstatement in this category. The Change-of-Grade Form must be submitted by the department office directly to the Office of the Registrar by the drop deadline of the following spring or fall semester. Extension of this deadline will be considered only when there is documentation of the student's attempt(s) to contact both the instructor and the department chair and only when the late submission of the Change-of-Grade Form is clearly shown to be beyond the student's control. If these conditions are met, the disqualification (or probation) will be rescinded. If the conditions are not met, even if the grade is subsequently changed and the GPA elevated, the probationary or disqualified status will remain unchanged. Note that a course or semester withdrawal is not considered to be a grade change, and reinstatement in this category would not be appropriate.

## Program of Study

The most common grounds for reinstatement is the completion of a program of study. A student must confer with the graduate advisor to develop a schedule of classes appropriate to the student's major. The courses must amount to a minimum of 6 and maximum of 9 units per semester, and all must be taken in a single semester. They must be letter graded, upper division (100-level), and taken through the SJSU Open University Winter or Summer session. The 100-level courses may or may not be part of the graduation requirements for the student's degree program. The advisor may require more than 6 units of course work. Graduate (200-level) courses are not permitted on the program of study, and disqualified students cannot enroll in 200-level courses. Under no circumstances will courses be accepted that were taken prior to approval of the program of study via submission of the Graduate Petition for Reinstatement. Also precluded from the program of study are courses taken at another university, 300-level or 400-level or 500-level courses, and lower division courses. If the student plans to pursue a different degree program upon readmission to the university, the program of study must be applicable to the new major, be developed in conjunction with the graduate advisor of the new major, and demonstrate the student's capacity to complete the new graduate degree requirements. If a course on an approved program of study becomes unavailable, another reinstatement petition must be submitted and approved immediately after enrollment in a substitute course. Once the program of study has been completed such that the student earns a minimum grade point average of 3.3 ("B+"), he or she will be reinstated and, after reapplication to the university, readmitted to the university and department. Reinstated students cannot be denied admission on the basis of their lack of good standing.

Reinstatement is not allowed for a second disqualification. Unless extenuating circumstances can be cited that result in rescinding the second disqualification, a Graduate Petition for Reinstatement will not be accepted from students who have been disqualified more than once.

Unless the disqualification is rescinded as above, reinstated students must apply to the university and department for readmission. Reapplication via [www.calstate.edu/apply](http://www.calstate.edu/apply) can be done during the semester in which the program of study is underway or in which the reinstatement petition is being considered. The application will be placed on hold at Graduate Admissions and Program Evaluations until the program-of-study grades are posted and students are reinstated. Under most circumstances, a department is expected to readmit students who have successfully completed programs of study signed off by that department. Disqualified, reinstated students seeking readmission are, nevertheless, subject to the same enrollment limitations and admission application requirements as all other applicants.

## Readmission

A graduate student readmitted after academic disqualification most often retains a sub-3.0 GPA and, therefore, remains on continued probation if the semester GPAs are at least 3.0 or above and until the cumulative graduate GPA is raised to a minimum of 3.0. While disqualified, the graduate student has no capacity, outside of possible degree-satisfying courses taken as part of a program of study, to raise the GPA. Unlike an undergraduate in a

disqualified status, courses taken by a graduate student through Open University or at other institutions during this period are not counted in university GPA calculations, except in the case of the program of study courses that are applicable to the degree program. At that point, the probationary status is removed, and a subsequent decline in cumulative GPA below 3.0 results again in probation. If while on probation, including following reinstatement, a student fails to achieve a term GPA equal to or above 3.0 in any Winter, Spring, Summer, or Fall term, he or she is disqualified a second and final time.

Disqualified students lose their privileges for course registration and so are effectively removed from the university. Readmission differs from reinstatement. An academically disqualified student may apply for and be granted reinstatement. But to continue with class enrollment requires that he or she also be readmitted into the university. Readmission is possible only after proper reinstatement is achieved, formal reapplication through Cal State Apply, university review, and acceptance by your former department. The student can reapply as early as the term following a first disqualification, even if reinstatement has not yet been achieved. The university will make special arrangements, before an official term begins, for former students who wish to return to their studies. The Associate Dean for the College of Graduate Studies should be contacted if these circumstances apply.

## Master's Requirements

- General Graduate Policies & Procedures
- Advancement to Candidacy
- Examinations
- Master's Thesis Requirements
- Graduation
- Second Master's Degree
- Interdisciplinary Studies
- Time Limits
- Leave of Absence

## Advancement to Candidacy

Matriculated graduate students must advance to candidacy a minimum of one semester prior to graduating. Advancement to candidacy requires that the student be in good standing. That is, a minimum of a 3.0 GPA is required in upper-division and graduate courses taken while in graduate status, and in the degree program as indicated by all courses on the candidacy form. The student must be classified with all admissions' provisions and program conditions cleared. Also required is a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses that are acceptable to the department in which the degree is sought. Exceptions to this rule can be made for two-semester master's programs. University policy also stipulates the Graduation Writing Assessment Requirement (GWAR) be fulfilled before advancement to candidacy. However, for special cases, the candidacy form, formally entitled the Petition for Advancement to Graduate Candidacy, may be filed during the semester in which a GWAR-satisfying course is taken.

## Graduate Degree Program

As indicated above, the Petition for Advancement to Graduate Candidacy ("candidacy form") is submitted to GAPE when the student is qualified to advance to candidacy. This form lists all courses and culminating experiences that must be fulfilled for degree award. The proposed program must meet the following requirements:

- statement of the total number of units in the degree program.
- at least half of the units included on the form must be in 200-level courses.
- at least 60% of all units included must be in letter-graded course work.
- at least 70% of the units included must be in residence at SJSU. Therefore, a maximum of 9 units may be transferred into a 30-unit program from all sources.

The course work included may be entirely within the major department, or it may include a combination of courses drawn from other fields acceptable to the major advisor, so long as it is within the parameters set by the department in the program descriptions on department websites. If deficiencies in the student's record are identified, including in prerequisites for required courses, additional course work can be assigned by the major advisor. This course work would not appear on the candidacy form and would not be counted in the total number of units required for the degree.

Coursework that may not be applied to the graduate degree includes basic skills' courses such as lower-division work, courses used to earn any prior degree (except other master's degrees at SJSU), courses taken at unaccredited institutions, directed (student) teaching, or 300-level residence or 400-level Professional Education courses taken at SJSU, or courses taken over seven years previous to current degree conferral. Graduate credit by examination is not permitted.

There is no restriction in the number of units of project or thesis research (usually 298 courses) attempted but not included on the candidacy form. However, students completing a thesis must include at least one 299 unit on the form, and the total number must be commensurate with program requirements. Students may not receive credit for project units unless the project course is successfully completed; instead either an RP or NC grade should be assigned in the semester of enrollment; extensions beyond the semester are prohibited without enrollment in that class in a subsequent semester.

Students may not receive credit for 299 units unless a thesis is submitted and accepted by the College of Graduate Studies. If thesis units are credited on the student record without thesis approval, the units must be retroactively withdrawn. The process of withdrawal is initiated by the student by submitting the Graduate Petition for Course/Semester Withdrawal, available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms).

The original copy of the completed, signed Petition for Advancement to Graduate Candidacy should be submitted to GAPE in the Student Services Center by the deadlines. The student will be informed by the approval or denial of the petition through the student's MySJSU account under "Other Indicators".

## Program Course Work

The candidacy form, once approved, is an official contract between the student and university. It can be changed only with the permission of the graduate advisor via written petition to the Associate Dean of the College of Graduate Studies. Course substitutions can be made by submitting the Request for Course Substitution in Master's Degree Program to the GAPE office. A course may not be dropped from the graduate degree program, as indicated by its appearance on an approved candidacy form, once it has been completed.

If a student obtains permission to change programs and the second program has different requirements than the first one, then a new candidacy form must be filed; graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

## Examinations

It is university policy to require final examinations or defenses in master's degree programs in all departments. Departmental requirements for these examinations vary; they may be oral, written, or a combination of both. Students following Plans A and C are usually examined primarily over areas of their theses or projects. Plan B students are generally required to demonstrate their competence by writing in a broad field of concentration, by taking comprehensive examinations, or by completing a broad course project.

In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required final examinations. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examinations and recommended preparation for them.

The master's degree cannot be considered for conferral to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that final examinations have been completed satisfactorily.

## Master's Thesis Requirements

Time is critical during the semester of submission of a master's thesis. Students must allow enough time for preparation of the draft, consideration by graduate committee members by the deadline dates set in departments, word processing, acquisition of permissions to publish, and the inevitable corrections. Students must leave time for



the final reading and signing by the committee members. In most departments, a minimum of two months is needed for the entire process, and some departments require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due.

All instructions for thesis and dissertation formatting and submission to Graduate Studies are located in the SJSU Master's Thesis Guidelines.

These instructions provide general guidance for authors of master's theses at SJSU. Examples of front pages are provided in the guidelines. Students should read the guidelines carefully and consult their advisors concerning the format of the thesis, the professional style guide to use, and journal articles to emulate, if applicable. The major department sometimes provides students with more complete formatting instructions. In rare cases, Graduate Studies will provide assistance.

SJSU participates in the University Microfilm International (UMI) Dissertation Information Service. Students completing theses and dissertations are required to email their committee-approved manuscript and accompanying documents to Graduate Studies according to the instructions provided in the SJSU Thesis and Dissertation Guidelines.

## Checking the Manuscript

The College of Graduate Studies does not serve as an editor. The author and graduate committee members should carefully proofread the thesis before it is submitted. A careful review should be used by the student as a guide to correcting similar errors in the entire manuscript. The review conducted by the College of Graduate Studies should also be regarded as an indicator of problems to be addressed globally throughout the manuscript. Making only the changes specifically indicated, rather than applying the criticisms to the remainder of the document, would not only result in a flawed document but would also be beneath graduate school standards. The College of Graduate Studies will reject a thesis with excessive errors.

Students can prevent rejection of the thesis by ensuring that the final manuscript is free of the following frequent errors: pages for which no numbers are assigned, failure to apply reference style consistently or to cite references when needed, careless spacing or centering, inappropriate margins, incorrect footnotes or bibliography entries, redundancy, awkward or unclear sentences, grammatical errors, punctuation errors, spelling errors, word-usage errors and inconsistencies in or lack of adherence to style-manual formatting rules.

Neither SJSU nor any of its separate offices or departments is responsible for matters concerning a student's relationships or agreements with any outside agency or individual consulted for manuscript preparation. Neither the university nor any of its offices will take part in disagreements between students and typists, editors or copy shops with regard to thesis preparation services, expected costs or billed costs. A student conducting thesis research off site, for example at a local company, must be free to include all of it in the thesis. SJSU's legal relationship is only with the student and his or her compliance with the rules set forth in this and related documents and does not include any obligations to the company in question unless expressly agreed upon in a separate legal document.

## Plans A, B and C

SJSU offers three plans for candidates for master's degrees.

### Plan A - Thesis Plan

This plan requires approval by the candidate's advisor and other members of the thesis committee of a thesis topic and its satisfactory production in written form. Plan A requires registration in departmental 299, Master's Thesis, for at least one unit. Departmental 298 units or other department-specific thesis research or methodology courses are often

also taken during the data-gathering stages of the thesis research. While the total number of 298 and 299 units, as well as units in any other project or thesis-research or preparatory course, is restricted for degree credit (and therefore inclusion on the candidacy form) by departmental rules and university policy, the total number of these units taken is not restricted.

### **Plan B - Degree-Without-Thesis Plan**

Plan B is characterized by substitution of the thesis and departmental 299 units with another set of courses and either a project or comprehensive exam. The plan is expected to provide substantial practical experiences by means of the tools and techniques of advanced study in the field. The purpose of Plan B is most often to provide breadth, rather than specialization, and so is tailored by the selection of courses and the nature of the final, comprehensive exam. The exam may be oral, written, or both and constitutes the culminating experience in the plan. Many departments historically have assigned students to Plan B for projects, whether they are also accompanied by a comprehensive exam or not. The projects are usually conducted as part of a departmental 298 or otherwise numbered 200-level project course for a maximum of six units, as stipulated by the department, and the write-up for the project is required as part of the culminating experience. Departmental 299 units are not permitted for graduate credit under this plan.

### **Plan C - Special Plans Including Creative Projects**

This plan is reserved for exceptional cases for which needs will be served best through a special arrangement of courses and/or special creative assignments. The assignments might include original paintings, dramatic presentations, motion picture productions, works of sculpture, electronic media or videotapes. In these cases, the candidate is required to submit a written report on the creative project in the form of a supplementary guide or handbook that puts the work into historical, cultural and/or professional context. This written report is to be cataloged in the university's institutional repository in the University Library in the same manner as regular theses discussed under Plan A. Departmental advisors will provide further information on special requirements of the plan. Plan C requires registration in a minimum of one unit of departmental 299. Note that creative projects can also be conducted under the Plan B umbrella without the submission of a thesis or taking departmental 299 units.

### **Thesis/Creative Project Unit Conditions**

Registration for departmental 299 thesis courses occurs only after advancement to candidacy for the master's degree. By that point, the thesis committee should be fully established in accordance with the SJSU University policy. Before collection of data from human subjects, prior approval must be granted by the Institutional Review Board; see the section on Human Subjects Data Collection. Similarly, prior approval for research on or employing animals must be granted by the Institutional Animal Care and Use Committee; see the section on Animal Research Guidelines.

A student is allowed a maximum of nine semester units of thesis research and writing courses (departmental 299 and usually 298 but other thesis courses apply) for graduate credit in Plan A and Plan C, although more of these units can be attempted. There is no minimum requirement except that all thesis students must have at least one 299 unit. The student may register for any or all of the required thesis units in one semester, but the sequence should follow departmental guidelines and regulations. All 299 units will receive a grade of "RP" until a final grade ("CR" or "NC") is awarded when the thesis is approved by Graduate Studies. "RP" units cannot be changed to "CR" until that time. Extensions of the two-year period for completing thesis work under the "RP" designation should be made before the period expires by means of the form available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms). Upon satisfactory completion of the thesis, a "CR" is submitted by the thesis chair via the Change-of-Grade form to the Registrar to clear the "RP." A separate form must be submitted for each occurrence of "RP" (each semester the grade is displayed) on the record.

For information about **copyright permission, IRB & human subjects research, and animal research requirements**, view the Research Policies and Procedures section.

## **Approval**

**The last three steps in the thesis process are outlined below:**

1. After the thesis has received final departmental (graduate committee) approval, as indicated by committee signatures, the complete document should be emailed along with the completed Thesis Information Packet. Deadline dates for submission may be found at Thesis and Dissertation Information. The deadlines are firm, and exceptions are extremely rare.
2. The thesis will be read and returned to the student with an assessment by the staff from College of Graduate Studies as accepted without corrections, provisionally accepted with corrections, or not accepted.
3. If the manuscript has an abundance of errors in formatting, grammar, punctuation or other writing parameters, corrections will have to be made. The advisors on the student's graduate committee should be consulted about these corrections. It bears repeating that the College of Graduate Studies staff reads and edits only portions of the manuscript, but it is expected that errors of the kinds indicated be corrected throughout the manuscript. If the manuscript is accepted with corrections, the student will be instructed to resubmit it within about a four-week period from the point of notification. If it is rejected, the revised manuscript may not be submitted until the following semester.

## Graduation

### Graduation Requirements

After being admitted to candidacy for the master's degree, the student is then required to (University Policy, F18-5)

- Maintain a minimum grade point average of 3.0 ("B") in completing requirements in the graduate degree program. The program is defined as completed courses included in the original graduate degree program plus all additions or substitutions.
- Complete all courses in the graduate degree program with grades between "A" and "B-," or "CR." Grades of "C" or lower, including "NC," "U," "IC" and "WU," are considered to be unsatisfactory. Should courses in the graduate degree program be completed with unsatisfactory grades, these grades must remain in the program and will continue to be computed in the grade point average of the program whether they are repeated or not.
- Complete all requirements for the degree as listed in the degree template in the university catalog. Substitutions for core and other required courses in the template must be justified by graduate advisor petitioning of the Associate Dean of Graduate Studies.
- Complete an acceptable thesis, project or comprehensive examination. The thesis (Plan A) or creative project (Plan C) requires that one copy be submitted to the Associate Dean for Graduate Studies. In Plan B, completed projects are submitted to the student's major department and a final comprehensive oral and/or written examination over the field of concentration for the degree must usually be successfully completed. Failure on initial attempts at these exams results in administrative-academic probation. Failure of the final attempt results in administrative-academic disqualification from the degree program. The program evaluator at GAPE is notified of passage of the exam by means of graduate advisor completion of the Verification of Culminating Experience memo.
- Complete all work on the graduate degree program within seven years preceding award of the degree. If courses become outdated, the candidate should consult the section titled Time Limits on Courses in Graduate Degree Programs concerning steps to be followed.
- Apply for award of the master's degree by the posted deadline dates through their MySJSU account two weeks after achieving advancement to candidacy.
- Note that failure to clear incomplete ("I"), report-in-progress ("RP"), or report-delayed ("RD") grades will prevent graduation. An "I" obtained in a graded class results in an automatic grade change to an "IC" grade, which calculates to an "F" grade on the transcript, even after separation or graduation. In an ungraded ("CR/NC") course, the "I" reverts to a no credit ("NC") grade and is, therefore, also unsatisfactory for graduation if in a course on the candidacy form.

- Be in good academic standing (cumulative 3.0 minimum GPA in Graduate Division) at San José State University to receive a degree from this university.

## Applying for the Master's Degree

The Petition for Advancement to Graduate Candidacy Form must be approved by the GAPE office before applying for graduation. Students should apply for graduation at least one semester before the date of anticipated graduation. However, it is highly advised that students apply at least one year before their future graduation date.

Advancement to candidacy is permitted only when all conditions of admission, if applicable, are met, nine letter-graded units, all with grades of C or better and a GPA of 3.0 or better have been achieved, and the graduate GVAR has been completed. For detailed information about these requirements, please visit completing a Master's and the above section Advancement to Candidacy.

**IMPORTANT:** Eligible students can apply for graduation through self-service within their MySJSU account approximately two weeks after students have been approved for advancement to candidacy by the GAPE office. Students will be sent a MySJSU message including instructions and prompting them to apply for graduation. Only students that apply for graduation will be considered for graduation review.

### Please note the following:

- All courses and requirements must be completed by the date of graduation.
- Any Incomplete (I), Report Delayed (RD), or Report Pending (RP) grades must be cleared before the degree can be awarded.
- Once the degree has been posted, no grade changes can be made to the record.
- If a student is unable to complete the course work stipulated on the candidacy form or if the date of graduation is delayed, a Graduation Date Change Request for Award of Master's Degree must be requested through [sjsu.edu/gape/forms/](https://sjsu.edu/gape/forms/) (see Online Graduation Date Change Request)
- Required forms must be submitted by the deadlines posted on the GAPE website at [deadlines website](https://sjsu.edu/gape/).
- Students are urged not to delay; failure to submit forms by the deadlines posted could delay graduation.

## Master's Degree - Second or Sequential and Simultaneous Master's Degree

There are two options for acquiring a second master's degrees. Graduate students who have completed one master's degree program at San José State University may, with the approval of the new department, complete requirements for a second master's degree at this institution.

In the first option, the student interested in a sequential second graduate degree after finishing another master's degree must apply for admission to the second graduate degree program after the first degree is completed and recorded on the permanent record. All policies and procedures listed in this catalog applicable to satisfactory completion of a master's degree apply to completion of requirements for a second master's degree, including that program requirements must be completed within a seven-year period. Graduate Studies at SJSU will not admit an applicant in pursuit of a master's degree if it is determined that the applicant has a similar degree already. Pursuit of a second master's degree will receive a lower priority for admission.

The second option is pursuit of two simultaneous master's degrees. A student in good standing enrolled in one master's program may pursue a second master's degree. Matriculated master's students do not need to formally reapply to the university through Cal State Apply. However, the student must secure approval from and admission

into the second master's degree program. This requires submission of all application materials previously requested of applicants by the department or school to the first degree program, as well as any additional materials required by the second program. Current transcripts, GRE scores, English-language test scores and letters of recommendation might be among those items required by the second department or school. The student is responsible for making those items available to the department regardless of his or her date of matriculation into the first major. Individual department deadlines apply for acceptance in any particular semester. Note: Approval for admission into the second master's program is given by means of its graduate advisor's signature on the Master's Level Double Degree Application; Contact the GAPE office for more information on this process.

The stipulation, however, is that a student pursuing simultaneous master's degrees cannot apply for graduation or be awarded either degree until both degree programs are complete. Both degrees must effectively be completed at the same time, and diplomas are issued for both degrees. If a student gains admission into a second degree program while still pursuing the first degree and applies for graduation before finishing the second program, he or she will be awarded the first master's degree and then lose matriculated status. Student status will thus be revoked and pursuit of a second master's degree prohibited. To satisfy this procedural requirement, a student should simply delay the request for award of the first degree until the second degree program requirements have been fulfilled. Please keep in mind that graduate units expire after seven years.

Alternatively, if a second master's degree is desired but will not be completed at the same time as the first, the student must file for graduation from the first degree program and formally apply for admission into the second program. That would require a full application, submission of all documentation required by the university and the department of the second master's program, and acceptance by both entities. Pursuit of a second master's degree will receive a lower priority for admission.

An approved program for a second degree should be prepared by the student and graduate advisor in the new field. If the new program happens to include coursework taken in the first degree, a maximum of 33% of the total units required for the new degree may be courses completed in the previous degree at this institution. Thus, for example, a student might be permitted to apply up to 10 units toward a 30-unit program. Such courses must have been completed by the student with a grade of "A," "B" or, in special cases, "CR." The courses must be approved by the graduate advisor, who may limit the number of transferred units. The 33% level is allowed only for transfer of units from master's degree programs taken at SJSU. Transfer from completed degree programs at other institutions is not allowed.

Please note that both simultaneous degree programs must be completed in the same semester to qualify for the double degree award. Both programs must also be completed within seven years. The student who finds he or she cannot complete both degree programs in the same semester has the option of dropping one of the programs and receiving a single degree. Dropping one of the programs requires informing GAPE in writing.

## Interdisciplinary Studies Master's Program

The Interdisciplinary Studies Major for either a Master of Arts or a Master of Science degree provides an alternative for individuals whose desired study plans do not fit the degree offerings of any single existing degree program on campus. In most cases, a thesis is required for this degree. Applicants or graduate students in other majors who wish to undertake the Interdisciplinary Studies major should consult the College of Graduate Studies website at Interdisciplinary Studies website to obtain the Guide for Interdisciplinary Studies Majors. The guide contains the Proposal for Interdisciplinary Studies Major, which must be completed to obtain initial approval by the Associate Dean of Graduate Studies to be able to enter the program.

## Time Limits

Section 40510(b)(2), California Code of Regulations, Title 5, Education, requires that courses in completed master's degree programs be no older than seven years at the time of the degree award. The seven-year period is counted from the end of the semester in which the course was completed. Thus, no more than seven years may elapse between the time the first course in a graduate program is completed and the time the last course in the program is completed, the latter indicating fulfillment of all degree requirements. Candidates have the following options to revalidate a course:

- Repeat the outdated course with a passing grade but without credit. The new grades will be factored into the GPA for graduation, and all grade requirements, such as the 3.0 minimum GPA, will still be in effect.
- Under some circumstances, another course (one already completed or to be taken) may be used to substitute for an outdated course. Permission for the substitution must be obtained from both the program's graduate advisor and the Associate Dean of Graduate Studies. This practice is highly discouraged, as it violates the rule that completed courses may not be removed from the candidacy form. If the original course is available for enrollment, it is unlikely that permission will be granted.
- Revalidate the outdated SJSU course by examination. Revalidation of courses is governed by University Policy S17-7. A student may revalidate a maximum of 9 units of a 30-unit master's degree program, or 12 units for a program with more than 30 units. Only courses in which a student has earned a "B" or better may be revalidated. Permission to revalidate from Graduate Studies or from GAPE is not required; examination can proceed and the results communicated to the program evaluator at GAPE by the form entitled **Request for Revalidation of Course that Has Exceeded the Seven-Year Time Limit** available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms). Course work completed at other institutions is not eligible for revalidation, but transfer courses taken at SJSU may be revalidated. Courses designated CR/NC, including supervisory courses such as project and thesis courses, seminar courses, independent study courses, and internship courses cannot be revalidated.

Veterans who are candidates for graduate degrees and who have had their graduate programs interrupted by military service may petition through the Associate Dean of Graduate Studies to extend the time limit imposed by the above regulations by the amount of time spent in military service. Nevertheless, students in this situation should apply for formal leaves of absence through the University Registrar, thereby making it unnecessary to contact Graduate Studies.

## Leave of Absence

By University Policy S15-3, a formal leave of absence for graduate students for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. For detailed information on the process and restrictions see Leaves of Absence and Withdrawal.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible and students must register for 1 unit of University Studies (UNVS) 1290R or a Departmental 1290R (Thesis/Project Supervision) through special session every semester until graduation (See Thesis and Project Work - RP Status). During this stage of a graduate student's career, leaves of absence for any reason beyond medical or military shall be precluded except under rare circumstances.

Note: International students may not take a leave of absence and must remain in the United States except for documented medical reasons. International students must be enrolled in a full course of study (9 units) for two semesters annually. Winter and Summer registration are not required. If you have further questions please contact the International Student Advising Office.

Note that the seven-year limit on course expiration remains in effect even for students who have taken leaves of absence, so it is important to plan carefully when applying for a leave of absence. Upon a student's return, the student's catalog rights shall pertain to his or her most recent admission date.

## Doctoral Requirements

- General Graduate Policies & Procedures
- Advancement to Candidacy
- Examinations
- Doctoral Dissertation and Project Requirements
- Graduation
- Time Limits
- Leave of Absence

## Advancement to Candidacy

Matriculated graduate students must advance to candidacy a minimum of one semester prior to graduating. Advancement to candidacy requires that the student be in good standing. That is, a minimum of a 3.0 GPA is required in upper-division and graduate courses taken while in graduate status, and in the degree program as indicated by all courses on the candidacy form. The student must be classified with all admissions' provisions and program conditions cleared. Also required is a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses that are acceptable to the department in which the degree is sought. Exceptions to this rule can be made for two-semester master's programs. University policy also stipulates the Graduation Writing Assessment Requirement be fulfilled before advancement to candidacy. However, for special cases, the candidacy form, formally entitled the Petition for Advancement to Graduate Candidacy (available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms)), may be filed during the semester in which a GVAR-satisfying course is taken.

## Graduate Degree Program

As indicated above, the Petition for Advancement to Graduate Candidacy ("candidacy form") is submitted to GAPE when the student is qualified to advance to candidacy. This form lists all courses and culminating experiences that must be fulfilled for degree award. The proposed program must meet the following requirements:

- statement of the total number of units in the degree program.
- at least half of the units included on the form must be in 200-level courses.
- at least 60% of all units included must be in letter-graded course work.
- at least 70% of the units included must be in residence at SJSU. Therefore, a maximum of 9 units may be transferred into a 30-unit program from all sources.

The course work included may be entirely within the major department, or it may include a combination of courses drawn from other fields acceptable to the major advisor, so long as it is within the parameters set by the department in the program descriptions on department websites. If deficiencies in the student's record are identified, including in prerequisites for required courses, additional course work can be assigned by the major advisor. This course work would not appear on the candidacy form and would not be counted in the total number of units required for the degree.

Coursework that may not be applied to the graduate degree includes basic skills' courses such as lower-division work, courses used to earn any prior degree (except other master's degrees at SJSU), courses taken at unaccredited institutions, directed (student) teaching, or 300-level residence or 400-level Extended Studies courses taken at SJSU, or courses taken over seven years previous to current degree conferral. Graduate credit by examination is not permitted.

There is no restriction in the number of units of project or thesis research (usually 298 courses) attempted but not included on the candidacy form. However, students completing a thesis must include at least one 299 unit on the

form, and the total number must be commensurate with program requirements. Students may not receive credit for project units unless the project course is successfully completed; instead either an RP or NC grade should be assigned in the semester of enrollment; extensions beyond the semester are prohibited without enrollment in that class in a subsequent semester.

Students may not receive credit for 299 units unless a thesis is submitted and accepted by the College of Graduate Studies. If thesis units are credited on the student record without thesis approval, the units must be retroactively withdrawn. The process of withdrawal is initiated by the student by submitting the Graduate Petition for Course/Semester Withdrawal, available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms).

The original copy of the completed, signed Petition for Advancement to Graduate Candidacy should be submitted to GAPE in the Student Services Center by the deadlines. The student will be informed by the approval or denial of the petition through the student's MySJSU account under "Other Indicators".

## Program Course Work

The candidacy form, once approved, is an official contract between the student and university. It can be changed only with the permission of the graduate advisor via written petition to the Associate Dean of Graduate Studies, and even then the petition is likely to be denied. Course substitutions can be made by submission to GAPE of the Request for Course Substitution in Master's Degree Program, available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms). A course may not be dropped from the graduate degree program, as indicated by its appearance on an approved candidacy form, once it has been completed.

If a student obtains permission to change programs and the second program has different requirements than the first one, then a new candidacy form must be filed; graded courses on the first form can be eliminated on the second form if not part of the new curriculum.

## Examinations

### Doctor of Audiology - AuD

It is California State University policy to require a qualifying examination and an oral defense of the dissertation in Doctor of Audiology (AuD) programs. Departmental requirements for these examinations vary. In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required examinations and the oral defense of the dissertation. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examinations and recommended preparation for them.

The AuD diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that the oral defense of the Doctoral Project has been completed satisfactorily. The student shall have completed all requirements for the degree within five years of achieving classified standing in the doctoral program. The appropriate campus authority may extend the time for completion of the requirements.

More details on the Doctor of Audiology Degree and its requirements may be found in the California Code of Regulations Title 5 §40517 and §40518.

### Doctor of Education Degree - EdD



It is California State University policy to require a qualifying examination and an oral defense of the dissertation in Doctor of Education Degree (EdD) programs. Departmental requirements for these examinations vary. In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required examinations and the oral defense of the dissertation. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examinations and recommended preparation for them.

The EdD diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that the oral defense has been completed satisfactorily. The student shall have completed all requirements for the degree within five years of achieving classified standing in the doctoral program. The appropriate campus authority may extend the time for completion of the requirements.

More details on the Doctor of Education Degree and its requirements may be found in the California Code of Regulations Title 5 §40511 and §40512.

## **Doctor of Nursing Practice (DNP)**

It is California State University policy to require a doctoral qualifying examination or assessment and an oral presentation of the doctoral project in Doctor of Nursing Practice (DNP) programs. Departmental requirements for these examinations vary. In all cases, it is the candidate's responsibility to register through the departmental coordinator of graduate studies to take all required examinations or undergo assessments and to give the oral presentation of the doctoral project. The candidate's advisor and/or the departmental graduate coordinator will be able to supply general information concerning the nature of the examination or assessment and the oral presentation and recommended preparation for them.

The DNP diploma cannot be transmitted to the candidate until the major department certifies to the program evaluator at GAPE via the Verification of Culminating Experience memo that the oral defense has been completed satisfactorily. The student shall have completed all requirements for the degree within five years of matriculation into the doctoral program.

More details on the Doctor of Nursing Practice Degree and its requirements may be found in the California Code of Regulations Title 5 §40513 and §40514.

## **Doctoral Dissertation and Project Requirements**

### **Dissertation - Doctor of Education Degree**

It is California State University policy to require a dissertation in Doctor of Education Degree (EdD) programs. Per that policy, the EdD dissertation shall be the written product of systematic, rigorous research on a significant professional issue. It is expected to contribute to an improvement in professional practices or policy. It shall evidence originality, critical and independent thinking, appropriate form and organization, and a rationale. The EdD dissertation shall also identify the research problem and question(s), state the major theoretical perspectives, explain the significance of the undertaking, relate it to the relevant scholarly and professional literature, set forth the appropriate sources for and methods of gathering and analyzing the data, and offer a conclusion or recommendation. It shall include a written abstract that summarizes the significance of the work, objectives, methodology, and a conclusion or recommendation.

Time is critical during the semester of submission of a dissertation. Students must allow enough time for preparation of the draft, consideration by doctoral committee members by the deadline dates set in departments, word processing, acquisition of permissions to publish, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. A minimum of two months is needed for the entire process, and departments may require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due. The student shall have completed all requirements for the degree within five years of achieving classified standing in the doctoral program. The appropriate campus authority may extend the time for completion of the requirements.

All instructions for thesis and dissertation formatting and submission to Graduate Studies are located in the SJSU Master's Thesis Guidelines.

These instructions provide general guidance for authors of doctoral dissertations at SJSU. Examples of front pages are provided in the guidelines. Students should read the guidelines carefully and consult their advisors concerning the format of the thesis or dissertation, the professional style guide to use, and journal articles to emulate, if applicable. The major department sometimes provides students with more complete formatting instructions. In rare cases, the College of Graduate Studies will provide assistance.

SJSU participates in the University Microfilm International (UMI) Dissertation Information Service. Students completing theses and dissertations are required to email their committee-approved manuscript and accompanying documents to Graduate Studies according to the instructions provided in the SJSU Thesis and Dissertation Guidelines.

## **Doctoral Project Requirements - Doctor of Audiology Degree**

It is California State University policy to require a doctoral project in Doctor of Audiology (AuD) programs. A doctoral project proposal must be approved by program faculty. Approved proposals may be undertaken as projects that are developed under the guidance of faculty and approved by the doctoral project committee.

Project options may include, but are not limited to, one or more of the following:

### **1. Evidence-Based Project**

Evidence-based projects shall demonstrate a thorough synthesis of evidence related to a defined clinical question pertinent to the profession of audiology.

Students shall produce a critical analysis of the literature, addressing the strength of evidence, synthesizing the findings of individual studies, interpreting the results, and applying the evidence to audiology practice. Both the written document and oral presentation will be reviewed according to a set of defined criteria specified in the AuD student handbook.

### **2. Hearing Science Project**

Projects shall demonstrate a thorough synthesis of evidence. Students shall produce a critical analysis of the literature, addressing the strength of evidence, synthesizing the findings of individual studies and interpreting the results. Both the written document and oral presentation will be reviewed according to a set of defined criteria specified in the AuD student handbook.

### **3. Clinical Research Project**

CSU AuD programs may use a clinical research project significant to the field of audiology. The project may be in the form of a meta-analysis, systematic review, clinical research project, or single-case research design project. Both the written document and oral presentation shall be reviewed according to a set of defined criteria specified in the AuD student handbook.

Time is critical during the semester of submission of a doctoral project. Students must allow enough time for preparation of the draft, consideration by graduate committee members by the deadline dates set in departments, word processing, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. A minimum of two months is needed for the entire process, and departments may require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due. The student shall have completed all requirements for the degree within five years of matriculation into the doctoral program. The appropriate campus authority may extend by up to two years the time for completion of the requirements.

## **Doctoral Project Requirements - Doctor of Nursing Practice Degree**

It is California State University policy to require a doctoral project in Doctor of Nursing Practice (DNP) programs. Per that policy, the DNP doctoral project shall be the written product of a systematic, rigorous, evidence-based endeavor focused on a significant nursing practice issue. The doctoral project is expected to contribute to an improvement in professional practices, policy, or patient outcomes. It shall evidence originality, critical and independent thinking, appropriate form and organization, and adequate rationale. The DNP doctoral project shall reflect a command of the scholarly literature and shall demonstrate the student's mastery of evidence-based practice at the doctoral level. The written component of the doctoral project shall be organized in an appropriate form and shall identify the problem statement and purpose, state the major theoretical perspectives, explain the significance of the undertaking, relate it to the relevant scholarly and professional literature, identify the methods of gathering and analyzing the data, and offer a conclusion or recommendation.

Time is critical during the semester of submission of a doctoral project. Students must allow enough time for preparation of the draft, consideration by graduate committee members by the deadline dates set in departments, word processing, and the inevitable corrections. Students must leave time for the final reading and signing by the committee members. A minimum of two months is needed for the entire process, and departments may require a longer period. Students should confer with each committee member in advance regarding the time each requires for review and whether each will be in town and available when the review and signatures are due. The student shall have completed all requirements for the degree within five years of matriculation into the doctoral program. The appropriate campus authority may extend by up to two years the time for completion of the requirements.

## **Checking the Dissertation Manuscript**

The College of Graduate Studies does not serve as an editor. The author and graduate committee members should carefully proofread the dissertation before it is submitted. A careful review should be used by the student as a guide to correcting similar errors in the entire manuscript. The review conducted by College of Graduate Studies should also be regarded as an indicator of problems to be addressed globally throughout the manuscript. Making only the changes specifically indicated, rather than applying the criticisms to the remainder of the document, would not only result in a flawed document but would also be beneath graduate school standards. The College of Graduate Studies will reject a dissertation with excessive errors.

Students can prevent rejection of the dissertation by ensuring that the final manuscript is free of the following frequent errors: pages for which no numbers are assigned, failure to apply reference style consistently or to cite references when needed, careless spacing or centering, inappropriate margins, incorrect footnotes or bibliography entries,

redundancy, awkward or unclear sentences, grammatical errors, punctuation errors, spelling errors, word-usage errors and inconsistencies in or lack of adherence to style-manual formatting rules.

Neither SJSU nor any of its separate offices or departments is responsible for matters concerning a student's relationships or agreements with any outside agency or individual consulted for manuscript preparation. Neither the university nor any of its offices will take part in disagreements between students and typists, editors or copy shops with regard to thesis preparation services, expected costs or billed costs. A student conducting dissertation research off site, for example at a local company, must be free to include all of it in the dissertation. SJSU's legal relationship is only with the student and his or her compliance with the rules set forth in this and related documents and does not include any obligations to the company in question unless expressly agreed upon in a separate legal document.

For information about **copyright permission, IRB & human subjects research, and animal research requirements**, view the Research Policies and Procedures section.

## Approval

The last three steps in the dissertation-approval process are outlined below:

1. After the dissertation has received final departmental (graduate committee) approval, as indicated by committee signatures, the complete document should be emailed along with the completed Dissertation Information Packet. Deadline dates for submission may be found at Thesis and Dissertation Information. The deadlines are firm, and exceptions are extremely rare.
2. The dissertation will be read and returned to the student with an assessment by the staff of the College of Graduate Studies as accepted without corrections, provisionally accepted with corrections, or not accepted.
3. If the manuscript has an abundance of errors in formatting, grammar, punctuation or other writing parameters, corrections will have to be made. The advisors on the student's graduate committee should be consulted about these corrections. It bears repeating that the College of Graduate Studies staff reads and edits only portions of the manuscript, but it is expected that errors of the kinds indicated be corrected throughout the manuscript. If the manuscript is accepted with corrections, the student will be instructed to resubmit it within about a four-week period from the point of notification. If it is rejected, the revised manuscript may not be submitted until the following semester.

## Graduation

### Graduation Requirements

After being admitted to candidacy for the doctorate degree, the student is then required to

- Maintain a minimum grade point average of 3.0 ("B") in completing requirements in the graduate degree program. The program is defined as completed courses included in the original graduate degree program plus all additions or substitutions.
- Complete all courses in the graduate degree program with grades between "A" and "C," or "CR." Grades of "C" or lower, including "NC," "U," "IC" and "WU," are considered to be unsatisfactory. Should courses in the graduate degree program be completed with unsatisfactory grades, these grades must remain in the program and will continue to be computed in the grade point average of the program whether they are repeated or not.
- Complete all requirements for the degree as listed in the degree template in the university catalog. Substitutions for core and other required courses in the template must be justified by graduate advisor petitioning of the Associate Dean of College of Graduate Studies.

- Complete an acceptable Dissertation. The thesis (Plan A) or creative project (Plan C) requires that one copy be submitted to the Associate Dean for College of Graduate Studies. In Plan B, completed projects are submitted to the student's major department and a final comprehensive oral and/ or written examination over the field of concentration for the degree must usually be successfully completed. Failure on initial attempts at these exams results in administrative-academic probation. Failure of the final attempt results in administrative-academic disqualification from the degree program. The program evaluator at GAPE is notified of passage of the exam by means of graduate advisor completion of the Verification of Culminating Experience memo.
- Complete all work on the graduate degree program within seven years preceding award of the degree. If courses become outdated, the candidate should consult the section titled Time Limits on Courses in Graduate Degree Programs concerning steps to be followed.
- Apply for award of degree by posted deadline dates through your MySJSU account two weeks after achieving advancement to candidacy.
- Note that failure to clear incomplete ("I"), report-in-progress ("RP"), or report-delayed ("RD") grades will prevent graduation. An "I" obtained in a graded class results in an automatic grade change to an "IC" grade, which calculates to an "F" grade on the transcript, even after separation or graduation. In an ungraded ("CR/NC") course, the "I" reverts to a no credit ("NC") grade and is, therefore, also unsatisfactory for graduation if in a course on the candidacy form.
- Be in good academic standing (cumulative 3.0 minimum GPA in Graduate Division) at San José State University to receive a degree from this university.

## Applying for the Doctoral Degree

The Petition for Advancement to Graduate Candidacy Form must be approved by the GAPE office before applying for graduation. Students should apply for graduation at least one semester before the date of anticipated graduation. However, it is highly advised that students apply at least one year before their future graduation date.

Advancement to candidacy is permitted only when all conditions of admission, if applicable, are met, nine letter-graded units, all with grades of C or better and a GPA of 3.0 or better have been achieved, and the graduate GVAR has been completed. For detailed information about these requirements, please visit Completing Masters webpage and the catalog section Graduate Degree - Advancement to Candidacy.

**IMPORTANT:** Eligible students can apply for graduation through self-service within their MySJSU account approximately two weeks after students have been approved for advancement to candidacy by the GAPE office. Students will be sent a MySJSU message including instructions and prompting them to apply for graduation. Only students that apply for graduation will be considered for graduation review.

### **Please note the following:**

- All courses and requirements must be completed by the date of graduation.
- Any Incomplete (I), Report Delayed (RD), or Report Pending (RP) grades must be cleared before the degree can be awarded.
- Once the degree has been posted, no grade changes can be made to the record.
- If a student is unable to complete the course work stipulated on the candidacy form or if the date of graduation is delayed, a Graduation Date Change Request for Award of Master's Degree must be requested through [sjsu.edu/gape/forms](https://sjsu.edu/gape/forms) (see Online Graduation Date Change Request)
- Required forms must be submitted by the deadlines posted on the GAPE website.
- Students are urged not to delay; failure to submit forms by the deadlines posted could delay graduation.

## Time Limits

Section 40512/40514, California Code of Regulations, Title 5, Education, requires that courses in completed doctoral degree programs be no older than five years at the time of the degree award. The five-year period is counted from the end of the semester in which the course was completed. Thus, no more than five years may elapse between the time the first course in a graduate program is completed and the time the last course in the program is completed, the latter indicating fulfillment of all degree requirements. Candidates have the following options to revalidate a course:

- Repeat the outdated course with a passing grade but without credit. The new grades will be factored into the GPA for graduation, and all grade requirements, such as the 3.0 minimum GPA, will still be in effect.
- Under some circumstances, another course (one already completed or to be taken) may be used to substitute for an outdated course. Permission for the substitution must be obtained from both the program's graduate advisor and the Associate Dean the College of Graduate Studies. This practice is highly discouraged, as it violates the rule that completed courses may not be removed from the candidacy form. If the original course is available for enrollment, it is unlikely that permission will be granted.
- Revalidate the outdated SJSU course by examination. Revalidation of courses is governed by University Policy S17-7. A student may revalidate a maximum of 9 units of a 30-unit master's degree program, or 12 units for a program with more than 30 units. Only courses in which a student has earned a "B" or better may be revalidated. Permission to revalidate from College of Graduate Studies or from GAPE is not required; examination can proceed and the results communicated to the program evaluator at GAPE by the form entitled Request for Revalidation of Course that Has Exceeded the Five-Year Time Limit available at [www.sjsu.edu/gape/forms](http://www.sjsu.edu/gape/forms). Course work completed at other institutions is not eligible for revalidation, but transfer courses taken at SJSU may be revalidated. Courses designated CR/NC, including supervisory courses such as project and thesis courses, seminar courses, independent study courses, and internship courses cannot be revalidated.

Veterans who are candidates for graduate degrees and who have had their graduate programs interrupted by military service may petition through the Associate Dean of Graduate Studies to extend the time limit imposed by the above regulations by the amount of time spent in military service. Nevertheless, students in this situation should apply for formal leaves of absence through the University Registrar, thereby making it unnecessary to contact Graduate Studies.

## Leave of Absence

By University Policy S15-3, a formal leave of absence for graduate students for medical, care-giving, military service, personal hardship, or educational reasons may be requested by submission of the fully signed and documented Leave of Absence Petition. For detailed information on the process and restrictions see Leaves of Absence and Withdrawal.

Graduate students are eligible for all leaves of absence except when finished with all degree requirements other than their culminating experience (thesis, project, and/or comprehensive exam plus any other components required of the major). At that point, neither stopping out (voluntary absence for a semester) nor financial leaves are permissible and students must register for 1 unit of University Studies (UNVS) 1290R or a Departmental 1290R (Thesis/Project Supervision) through special session every semester until graduation (See Thesis and Project Work - RP Status). During this stage of a graduate student's career, leaves of absence for any reason beyond medical or military shall be precluded except under rare circumstances.

Note: International students may not take a leave of absence and must remain in the United States except for documented medical reasons. International students must be enrolled in a full course of study (9 units) for two semesters annually. Winter and Summer registration are not required. If you have further questions please contact the International Student Advising Office.

Note that the five-year doctoral limit on course expiration remains in effect even for students who have taken leaves of absence, so it is important to plan carefully when applying for a leave of absence. Upon a student's return, the student's catalog rights shall pertain to his or her most recent admission date.

## **CSU Nondiscrimination Policy and Complaint Procedures**

- SU Executive Order 1045
- Protected Status
- Racial Incidents at Educational Institutions
- Discrimination, Harassment and Retaliation Reporting and Protection
- Sexual Harassment Policy and Complaints
- ROTC Recruiting
- Information Regarding Campus, Criminal and Civil Consequences of Committing Acts of Sexual Violence
- Confidentiality and Sexual Misconduct, Dating Violence, Domestic Violence and Stalking
- Reporting
- SJSU Policies

## **CSU Executive Order 1045**

### **California State University (CSU) Student/Applicant for Admission Discrimination/Harassment/Retaliation Complaint Process Timeline**

### **Systemwide Policy Prohibiting Discrimination, Harassment and Retaliation, Sexual Misconduct, Dating and Domestic Violence, and Stalking against Students and Systemwide Procedure for Addressing Such Complaints by Students**

California State University Executive Order 1097 governs the procedures that SJSU follows when students make a complaint regarding Discrimination, Harassment and Retaliation, Sexual Misconduct, Dating and Domestic Violence, and Stalking.

California State University Executive Order 1097 informs students of their rights and responsibilities when they make a complaint and describes the Campus Early Resolution Process, Campus Investigation Process, Appeal Review-Office of the Chancellor, and Remedies that may be imposed.

## **Campus Climate**



## Tolerance, Respect and Understanding

As members of a university community it is our responsibility to advocate tolerance, respect and understanding at a level above that which is minimally required of us by law. While SJSU has largely succeeded in creating a diverse campus community, it must also actively promote a civil campus climate. This may require changes in attitudes and behaviors as we develop our common bonds.

Several of the convictions that might help us as members of an educational institution create these bonds are:

**Respect for the individual:** In recognition of individual uniqueness and value, whether as students, faculty, staff or administrators, it is our commitment to discourage appropriately any actions, behaviors, communication or programs that erode this fundamental concern for the individual.

**Commitment to issue and problem resolution:** It is the intent of the university to recognize the process of problem and issue resolution as integral to the successful achievement of its mission. SJSU is committed to addressing problems and issues in a responsive, equitable and timely manner.

**Open communication and feedback:** The university endorses and supports an environment of open communication and feedback. In support of this principle, the university will develop internal programs to educate, evaluate and provide feedback to support the growth process, including the growth of community and civility.

## Protected Status

### **Genetic Information, Marital Status, Medical Condition, Nationality, Race or Ethnicity (including color or ancestry), Religion or Religious Creed, and Veteran or Military Status**

California State University does not discriminate on the basis of age, genetic information, marital status, medical condition, nationality, race or ethnicity (including color and ancestry), religion (or religious creed), and veteran or military status - as these terms are defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including Title VI of the Civil Rights Act of 1964 and the California Equity in Higher Education Act, prohibit such discrimination.

CSU Executive Order 1097 (EO 1097 Revised March 29, 2019) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party. The Director of Compliance has been designated to coordinate the efforts of San José State University to comply with all applicable federal and state laws prohibiting discrimination on these bases. Inquiries concerning compliance may be presented to this person at 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115.

## Disability

The California State University does not discriminate on the basis of disability (physical and mental) - as this term is defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including sections 504 and 508 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990,

prohibit such discrimination. Each campus has been designated to coordinate the efforts to comply with all applicable federal and state laws prohibiting discrimination on the basis of disability. Inquiries concerning compliance may be presented to this person at [campus address and phone number]. CSU Executive Order 1097 Revised March 19, 2019 (EO 1097) (or any successor executive order) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

The Office for Equal Opportunity has been designated to coordinate the efforts of SJSU to comply with all relevant disability laws. Inquiries concerning compliance may be addressed to this office at 408-924-1115.

## Gender (or sex), Gender Identity (including transgender), Gender Expression and Sexual Orientation

California State University does not discriminate on the basis of gender (or sex), gender (including transgender), gender expression or sexual orientation - as these terms are defined in CSU policy - in its programs and activities, including admission and access. Federal and state laws, including Title IX of the Education Amendments of 1972, prohibit such discrimination. The California State University is committed to providing equal opportunities to all CSU students in all campus programs, including intercollegiate athletics. Inquiries concerning compliance may be presented to this person at 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115. CSU Executive Order 1097 Revised March 19, 2020 (EO 1097) (or any successor executive order) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

Title IX of the Education Amendments of 1972 protects all people regardless of their gender, gender identity, gender expression or sexual orientation from gender discrimination, which includes sexual harassment and violence:

Sexual Discrimination means an adverse action taken against a student by the CSU, a CSU employee, or another student because of gender or sex (including sexual harassment, sexual violence, domestic violence, dating violence, and stalking) that is perpetrated against an individual on a basis prohibited by Title IX of the Education Amendments of 1972, 20 U.S.C. §1681 et seq., and its implementing regulations, 34 C.F.R. Part 106 (Title IX); California Education Code §66250 et seq., and/or California Government Code §11135.

Sexual Harassment, a form of sex discrimination, is unwelcome verbal, nonverbal or physical conduct of a sexual nature that includes, but is not limited to, sexual advances, requests for sexual favors, and any other conduct of a sexual nature where:

1. Submission to, or rejection of, the conduct is explicitly or implicitly used as the basis for any decision affecting a complainant's academic status or progress, or access to benefits and services, honors, programs, or activities available at or through the university; or
2. The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the complainant, and is in fact considered by the complainant, as limiting his or her ability to participate in or benefit from the services, activities or opportunities offered by the university; or
3. The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the complainant, and is in fact considered by the complainant, as creating an intimidating, hostile or offensive environment.

Sexual harassment could include being forced to engage in unwanted sexual contact as a condition of membership in a student organization; being subjected to video or photographic exploitation, or a campaign of sexually explicit graffiti; or frequently being exposed to unwanted images of a sexual nature in a classroom that are unrelated to the coursework. Executive Order 1097 covers unwelcome conduct of a sexual nature. While romantic, sexual, intimate, personal or social relationships between members of the University community may begin as consensual, they may

evolve into situations that lead to sexual harassment or sexual misconduct, including dating or domestic violence, or stalking, subject to this policy. Claiming that the conduct was not motivated by sexual desire is not a defense to a complaint of harassment based on gender.

**Sexual Misconduct:** All sexual activity between members of the university community must be based on affirmative consent. Engaging in any sexual activity without first obtaining affirmative consent to the specific activity is sexual misconduct, whether or not the conduct violates any civil or criminal law. Sexual activity includes, but is not limited to, kissing, touching intimate body parts, fondling, intercourse, penetration of any body part, and oral sex. It also includes any unwelcome physical acts, such as unwelcome sexual touching, sexual assault, sexual battery, rape, and dating violence. When based on gender, domestic violence or stalking also constitute sexual misconduct. Sexual misconduct may include using physical force, violence, threat or intimidation, ignoring the objections of the other person, causing the other person's intoxication or incapacitation through the use of drugs or alcohol, or taking advantage of the other person's incapacitation (including voluntary intoxication) to engage in sexual activity. Men as well as women can be victims of these forms of sexual misconduct. Sexual activity with a minor is never consensual when the complainant is under 18 years old, because the minor is considered incapable of giving legal consent due to age.

**Sexual Assault** is a form of sexual misconduct and is an attempt, coupled with the ability, to commit a violent injury on the person of another because of that person's gender or sex.

**Sexual Battery** is a form of sexual misconduct and is any willful and unlawful use of force or violence upon the person of another because of that person's gender or sex as well as touching an intimate part of another person against that person's will and for the purpose of sexual arousal, gratification or abuse.

**Rape** is a form of sexual misconduct and is non-consensual sexual intercourse that may also involve the use of threat of force, violence, or immediate and unlawful bodily injury or threats of future retaliation and duress. Any sexual penetration, however slight, is sufficient to constitute rape. Sexual acts including intercourse are considered non-consensual when a person is incapable of giving consent because they are incapacitated from alcohol and/drugs, is under 18 years old, or if a mental disorder or developmental or physical disability renders the person incapable of giving consent. The respondent's relationship to the person (such as family member, spouse, friend, acquaintance or stranger) is irrelevant.

**Acquaintance Rape** is a form of sexual misconduct committed by an individual known to the victim. This includes a person the victim may have just met; i.e., at a party, introduced through a friend, or on a social networking website.

**Affirmative Consent** means an informed, affirmative, conscious, voluntary, and mutual agreement to engage in sexual activity. It is the responsibility of each person involved in the sexual activity to ensure that they have the affirmative consent of the other participant(s) to engage in the sexual activity. Lack of protest or resistance does not mean consent nor does silence mean consent. Affirmative consent must be voluntary, and given without coercion, force, threats or intimidation.

- The existence of a dating or social relationship between those involved, or the fact of past sexual activities between them, should never by itself be assumed to be an indicator of affirmative consent. A request for someone to use a condom or birth control does not, in and of itself, constitute affirmative consent.
- Affirmative consent can be withdrawn or revoked. Consent to one form of sexual activity (or sexual act) does not constitute consent to other forms of sexual activity. Consent given to sexual activity on one occasion does not constitute consent on another occasion. There must always be mutual and affirmative consent to engage in sexual activity. Consent must be ongoing throughout a sexual activity and can be revoked at any time, including after penetration. Once consent is withdrawn or revoked, the sexual activity must stop immediately.
- A person who is incapacitated cannot give affirmative consent. A person is unable to consent when they are asleep, unconscious or is incapacitated due to the influence of drugs, alcohol, or medication so that they could not understand the fact, nature or extent of the sexual activity. A person is incapacitated if they lack the physical and/or mental ability to make informed, rational decisions. Whether an intoxicated person (as a result of using alcohol or other drugs) is incapacitated depends on the extent to which the alcohol or other

drugs impact the person's decision- making capacity, awareness of consequences, and ability to make fully informed judgments. A person's own intoxication or incapacitation from drugs or alcohol does not diminish that person's responsibility to obtain affirmative consent before engaging in sexual activity.

- A person with a medical or mental disability may also lack the capacity to give consent.
- Sexual activity with a minor (a person under 18 years old) is not consensual, because a minor is considered incapable of giving legal consent due to age.
- It shall not be a valid excuse that a person affirmatively consented to the sexual activity if the respondent knew or reasonably should have known that the person was unable to consent to the sexual activity under any of the following circumstances:

The person was asleep or unconscious;

The person was incapacitated due to the influence of drugs, alcohol or medication, so that the person could not understand the fact, nature or extent of the sexual activity;

The person was unable to communicate due to a mental or physical condition.

- It shall not be a valid excuse that the respondent believed that the person consented to the sexual activity under either of the following circumstances:

The respondent's belief in affirmative consent arose from the intoxication or recklessness of the respondent;

The respondent did not take reasonable steps, in the circumstances known to the respondent at the time, to ascertain whether the person affirmatively consented.

**Consensual Relationships:** Consensual relationship means a sexual or romantic relationship between two persons who voluntarily enter into such a relationship. While sexual and/or romantic relationships between members of the University community may begin as consensual, they may evolve into situations that lead to discrimination, harassment, retaliation, sexual misconduct, dating or domestic violence, or stalking.

- A university employee shall not enter into a consensual relationship with a student or employee over whom they exercise direct or otherwise significant academic, administrative, supervisory, evaluative, counseling, or extracurricular authority. In the event such a relationship already exists, each campus shall develop a procedure to reassess such authority to avoid violations of this policy.
- This prohibition does not limit the right of an employee to make a recommendation on the personnel matters concerning a family or household member where the right to make recommendations on such personnel matters is explicitly provided for in the applicable collective bargaining agreement or MPP/confidential personnel plan.

**Domestic Violence** is abuse committed against someone who is a current or former spouse, current or former cohabitant, someone with whom the abuser has a child, someone with whom the abuser has or had a dating or engagement relationship, or a person similarly situated under California domestic or family violence law. Cohabitant means two unrelated persons living together for a substantial period of time, resulting in some permanency of relationship. It does not include roommates who do not have a romantic, intimate, or sexual relationship. Factors that may determine whether persons are cohabiting include, but are not limited to (1) sexual relations between the parties while sharing the same living quarters, (2) sharing of income or expenses, (3) joint use or ownership of property, (4) whether the parties hold themselves out as husband and wife, (5) the continuity of the relationship, and (6) the length of the relationship. For purposes of this definition, "abuse" means intentionally or recklessly causing or attempting to cause bodily injury or placing another person in reasonable apprehension of imminent serious bodily injury to himself or herself, or another. Abuse does not include non-physical, emotional distress or injury.

**Dating Violence** is abuse committed by a person who is or has been in a social or dating relationship of a romantic or intimate nature with the victim. This may include someone the victim just met; i.e., at a party, introduced through a friend, or on a social networking website. For purposes of this definition, "abuse" means intentionally or recklessly causing or attempting to cause bodily injury or placing another person in reasonable apprehension of imminent serious bodily injury to himself or herself, or another. Abuse does not include non-physical, emotional distress or injury.

**Stalking** means a repeated course of conduct directed at a specific person that would cause a reasonable person to fear for their or others' safety or to suffer substantial emotional distress. For purposes of this definition:

- Course of conduct means two or more acts, including but not limited to, acts in which the stalker directly, indirectly, or through third parties, by any action, method, device, or means, follows, monitors, observes, surveys, threatens, or communicates to or about a person, or interferes with a person's property;
- Reasonable person means a reasonable person under similar circumstances and with the same protected status(es) as the complainant;
- Substantial emotional distress means significant mental suffering or anguish that may, but does not necessarily, require medical or other professional treatment or counseling.

See further information in the SJSU sexual violence and prevention and education statement, Title IX Notice of Nondiscrimination (which includes facts and myths about sexual violence), and Victim's Rights and Options Notice, at [www.sjsu.edu/diversity/titleix](http://www.sjsu.edu/diversity/titleix).

## Whom to Contact If You Have Complaints, Questions or Concerns

Title IX requires the university to designate a Title IX Coordinator to monitor and oversee overall Title IX compliance. The campus Title IX Coordinator is available to explain and discuss the university's complaint process, including the investigation and hearing process; the availability of reasonable supportive measures (both on and off campus regardless of whether the person chooses to report the conduct); the right to file a criminal complaint (for example, in cases of sexual misconduct); how confidentiality is handled; and other related matters. **If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.**

Gloria Godinez  
*Interim Title IX Officer*  
(408) 924-7289  
8:00-5:00 p.m.  
[gloria.godinez@sjsu.edu](mailto:gloria.godinez@sjsu.edu)

Sergeant Justin Celano  
*Investigations, University Police Department*  
(408) 924-2218  
[Justin.Celano@sjsu.edu](mailto:Justin.Celano@sjsu.edu)

Title IX requires the university to designate a Title IX Coordinator to monitor and oversee overall Title IX compliance. The campus Title IX Coordinator is available to explain and discuss the university's complaint process, including the investigation and hearing process; the availability of reasonable supportive measures (both on and off campus regardless of whether the person chooses to report the conduct); the right to file a criminal complaint (for example, in cases of sexual misconduct); the university's complaint process, including the investigation process; how confidentiality is handled; available resources, both on and off campus; and other related matters. If you are in the midst of an emergency, please call the police immediately by dialing 9-1-1.

Title IX requires the university to adopt and publish complaint procedures that provide for prompt and equitable resolution of gender discrimination complaints, including sexual harassment and misconduct, as well as provide training, education and preventive measures related to sex discrimination. CSU Executive Order 1097 ([www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf](http://www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf)) (or any successor policy) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

**Duty to Report.** Except as provided below under confidentiality and sexual misconduct, dating violence, domestic violence, and stalking, any university employee who knows or has reason to know of allegations or acts that violate university policy shall promptly inform the Title IX Coordinator. These employees are required to disclose all

information including the names of the parties, even where the person has requested that their name remain confidential. The Title IX Coordinator will determine whether confidentiality is appropriate given the circumstances of each such incident. (See confidential reporting options outlined below.)

Regardless of whether an alleged victim of gender discrimination ultimately files a complaint, if the campus knows or has reason to know about possible sexual discrimination, harassment or misconduct, it must review the matter to determine if an investigation is warranted. The campus must then take appropriate steps to eliminate any gender discrimination/harassment/misconduct, prevent its recurrence, and remedy its effects.

## U.S. Department of Education, Office of Civil Rights (OCR):

(800) 421-3481 (main office), or (415) 486-5555 (California Office), or (800) 877-8339 (TDD) or ocr@ed.gov (main office) or ocr.sanfrancisco@ed.gov (California Office)

If you wish to fill out a complaint form online with the OCR, you may do so at [www2.ed.gov](http://www2.ed.gov).

## Safety of the Campus Community is Primary

The university's primary concern is the safety of its campus community members. The use of alcohol or drugs never makes the victim at fault for gender discrimination, harassment or misconduct; therefore, victims should not be deterred from reporting incidents of sexual misconduct out of a concern that they might be disciplined for related violations of drug, alcohol or other university policies. Except in extreme circumstances, victims of sexual misconduct shall not be subject to discipline for related violations of the Student Conduct Code.

## Racial Incidents at Educational Institutions

### Federal Statute and Guidelines on Handling Racial Incidents at Educational Institutions

Title VII of the Civil Rights Act of 1964 is enforced by the U.S. Department of Education's Office for Civil Rights issued guidelines for educational institutions receiving federal assistance to follow in handling "Racial Incidents and Harassment Against Students at Educational Institutions." These guidelines clarify conduct that violates Title VI:

"Under Title VI of Civil Rights Act of 1964 (Title VI) and its implementing regulations, no individual may be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination on the ground of race, color or national origin under any program or activity that receives federal funds. Racially based conduct that has such an effect and that consists of different treatment of students on the basis of race by agents or employees, acting within the scope of their official duties, violates Title VI. In addition, the existence of a racially hostile environment that is created, encouraged, accepted, tolerated or left uncorrected ... also constitutes different treatment on the basis of race in violation of Title VI."

These same Title VI guidelines further define a "racially hostile environment" as harassing conduct (e.g. physical, verbal, graphic or written) that is sufficiently severe, pervasive or persistent so as to interfere with or limit the ability of an individual to participate in or benefit from the services, activities or privileges provided.

# Discrimination, Harassment and Retaliation Reporting and Protection

SJSU policies prohibit retaliation against persons who file a complaint of discrimination, or assist with or participate in an SJSU or government agency investigation, proceeding or hearing concerning discrimination complaint. Retaliation complaints can be separately filed in the Office for Equal Opportunity, 408-924-1115. Or go to [www.sjsu.edu/hr](http://www.sjsu.edu/hr) for more information.

San José State University is committed to creating an atmosphere in which all persons and groups can work and study free of unlawful discrimination.

Unit 11 Academic Student Employee: See Office of Faculty Affairs

## Students

If you have any complaints regarding unlawful discrimination or harassment follow the complaint guidelines outlined in CSU Executive Order 1097 and complete the Student Complaint Form for Discrimination, Harassment, Retaliation & Sexual Misconduct under Title IX and return it to Office of Equal Opportunity.

For more information, see our FAQs or contact Office for Equal Opportunity.

For more information, visit the Students Harassment Complaints website.

## Sexual Harassment Policy and Complaints

SJSU is committed to maintaining a working and learning environment free from sexual harassment for its students, employees and those who apply for employee or student status. Sexual harassment is conduct subject to disciplinary action.

CSU policy defines sexual harassment to include "such behavior as sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature directed towards an employee, student or applicant when one or more of the following circumstances are present:

- Submission to, or rejection of, the conduct is explicitly or implicitly used as the basis for any decision affecting a Complainant's academic status or progress, or access to benefits and services, honors, programs, or activities available at or through the University; or
- The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as limiting his or her ability to participate in or benefit from the services, activities or opportunities offered by the University; or
- The conduct is sufficiently severe, persistent or pervasive that its effect, whether or not intended, could be considered by a reasonable person in the shoes of the Complainant, and is in fact considered by the Complainant, as creating an intimidating, hostile or offensive environment.

Sexual Harassment could include being forced to engage in unwanted sexual contact as a condition of membership in a student organization; being subjected to video exploitation or a campaign of sexually explicit graffiti; or frequently being exposed to unwanted images of a sexual nature in a classroom that are unrelated to the coursework.

Sexual Harassment also includes acts of verbal, non-verbal or physical aggression, intimidation or hostility based on Gender or sex-stereotyping, even if those acts do not involve conduct of a sexual nature.

Executive Order 1097 covers unwelcome conduct of a sexual nature. While romantic, sexual, intimate, personal or social relationships between members of the University community may begin as consensual, they may evolve into situations that lead to Sexual Harassment or Sexual Misconduct, including Dating or Domestic Violence, or Stalking, subject to this policy.

Claiming that the conduct was not motivated by sexual desire is not a defense to a complaint of harassment based on Gender.

All complaints dealing with sexual harassment should be directed to the Director, Office for Equal Opportunity, who has been designated to investigate such allegations.

## **ROTC Recruiting**

This notice is to inform you that San José State University hosts the Air Force Reserve Officers Training Corps program on campus solely in compliance with the federal requirements contained in The Solomon Amendment. This law, passed as an attachment to the FY97 Federal Appropriations Bill, allows the government to deny federal funding, including federal student aid, to any school that does not provide access to ROTC programs and military recruiters on its campus.

San José State University is guided by the principle of equal opportunity, including the conviction that there will be no differential treatment or harassment of persons because of race, color, religion, national origin, age, sex, marital status, pregnancy, disability, veteran's status, or sexual orientation. The university has a firm and unambiguous commitment to the active elimination of discrimination, and the affirmative recruitment of a diverse, multi-racial community of students, faculty and staff.

## **Information Regarding Campus, Criminal and Civil Consequences of Committing Acts of Sexual Violence**

Individuals alleged to have committed sexual misconduct may face criminal prosecution by law enforcement and may incur penalties as a result of civil litigation. In addition, students may face discipline at the university, up to and including suspension or expulsion and withholding of their degrees. Employees may face sanctions up to and including suspension, demotion, or dismissal from employment, pursuant to established CSU policies and provisions of applicable collective bargaining unit agreements.

Students who are charged by the university with gender discrimination, harassment or sexual misconduct will be subject to discipline, pursuant to the California State University Student Conduct Procedures (see Executive Order - EO 1098 - or any successor executive order) and will be subject to appropriate sanctions. In addition, during any investigation, the university may implement interim measures in order to maintain a safe and non-discriminatory educational environment. Such measures may include but not be limited to: immediate interim suspension from the university; a required move from university-owned or affiliated housing; adjustments to course schedule; and/or prohibition from contact with parties involved in the alleged incident.

## **Confidentiality and Sexual Misconduct, Dating Violence, Domestic Violence and Stalking**



The university encourages victims of sexual misconduct, dating violence, domestic violence or stalking to talk to someone about what happened - so they can get the support they need, and so the university can respond appropriately.

## Privileged and Confidential Communications

### **Physicians, Psychotherapists, Professional Licensed Counselors, Licensed Clinical Social Workers, and Clergy**

Physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers, and clergy who work or volunteer on or off campus, acting solely in those roles or capacities as part of their employment, and who provide medical or mental health treatment or counseling (and those who act under their supervision, including all individuals who work or volunteer in their centers and offices) including those who act in that role under their supervision) may not report any information about an incident of sexual misconduct to anyone else at the university, including the Title IX Coordinator, without the victim's consent. A victim can seek assistance and support from physicians, psychotherapists, professional, licensed counselors, licensed clinical social workers and clergy without triggering a university investigation that could reveal the victim's identity or the fact of the victim's disclosure. However, see limited exceptions below regarding when health care practitioners must report to local law enforcement agencies. Health care practitioners should explain these limited exceptions to victims, if applicable.

**Sexual Assault and Domestic Violence Counselors and Advocates** - Sexual assault and domestic violence counselors and advocates who work or volunteer on or off campus in sexual assault centers, victim advocacy offices, women's centers and health centers and who are acting solely in that role (including those who act in that role under their supervision, along with non-professional counselors or advocates who work or volunteer in sexual assault centers, victim advocacy offices, women's centers, gender equity centers, or health centers), may talk to a victim without revealing any information about the victim and the incident of sexual misconduct to anyone else at the university, including the Title IX Coordinator, without the victim's consent. A victim can seek assistance and support from these counselors and advocates without triggering a university investigation that could reveal his/her identity or that a victim disclosed an incident to them. However, see limited exceptions below regarding when sexual assault and domestic violence counselors and advocates must report to local law enforcement agencies. Counselors and advocates should explain these limited exceptions to victims, if applicable.

The university will be unable to conduct an investigation into a particular incident or pursue disciplinary action against a perpetrator if a victim chooses to (1) speak only to a physician, professional licensed counselor, licensed clinical social worker, clergy member, sexual assault counselor, domestic violence counselor or advocate; and (2) maintain complete confidentiality. Even so, these individuals will assist victims in receiving other necessary protection and support, such as victim advocacy, disability, medical/health or mental health services, or legal services, and will advise victims regarding their right to file a Title IX complaint with the university and a separate complaint with local or university police. If a victim insists on confidentiality, such professionals, counselors and advocates will likely not be able to assist the victim with: university academic support or accommodations; changes to university-based living or working schedules; or adjustments to course schedules. A victim who at first requests confidentiality may later decide to file a complaint with the university or report the incident to the police, and thus have the incident fully investigated. These counselors and advocates can provide victims with that assistance if requested by the victim. These counselors and advocates will also explain that Title IX includes protections against retaliation, and that the university will not only take steps to prevent retaliation when it knows or reasonably should know of possible retaliation, but will also take strong responsive action if it retaliation occurs.

**EXCEPTIONS:** Under California law, any health practitioner employed in a health facility, clinic, physician's office, or local or state public health department or clinic is required to make a report to local law enforcement if he or she provides medical services for a physical condition to a patient/victim who he or she knows or reasonably suspects is suffering from (1) a wound or physical injury inflicted by a firearm; or (2) any wound or other physical injury inflicted upon a victim where the injury is the result of assaultive or abusive conduct (including sexual misconduct, domestic violence, and dating violence). This exception does not apply to sexual assault and domestic violence counselors and advocates. Health care practitioners should explain this limited exception to victims, if applicable.

Additionally, under California law, all professionals described above (physicians, psychotherapists, professional counselors, licensed clinical social workers, clergy, and sexual assault and domestic violence counselors and advocates) are mandatory child abuse and neglect reporters, and are required to report incidents involving victims under 18 years of age to local law enforcement. These professionals will explain this limited exception to victims, if applicable.

Finally, some or all of these professionals may also have reporting obligations under California law to: (1) local law enforcement in cases involving threats of immediate or imminent harm to self or others where disclosure of the information is necessary to prevent the threatened danger; or (2) to the court if compelled by court order or subpoena in a criminal proceeding related to the sexual misconduct, dating or domestic violence, or stalking incident. If applicable, these professionals will explain this limited exception to victims.

## Reporting to the University or Local Police

If a victim reports to local or university police about sexual misconduct crimes, the police are required to notify victims that their names will become a matter of public record unless confidentiality is requested. If a victim requests that his/her identity be kept confidential, his/her name will not become a matter of public record and the police will not report the victim's identity to anyone else at the university, including the Title IX Coordinator. University police will, however, report the facts of the incident itself to the Title IX Coordinator being sure not to reveal to the Title IX Coordinator victim names/identities or compromise their own criminal investigation. The university is required by the federal Clery Act to report certain types of crimes (including certain sex offenses) in statistical reports. However, while the university will report the type of incident in the annual crime statistics report known as the Annual Security Report, victim names/identities will not be revealed.

## Reporting to the Title IX Coordinator and Other University Employees

Most university employees have a duty to report incidents of sexual misconduct when they are on notice of it. When a victim tells the Title IX Coordinator or another university employee about an incident of sexual misconduct, the victim has the right to expect the university to take immediate and appropriate steps to investigate what happened and to resolve the matter promptly and equitably. In all cases, the university strongly encourages victims to report incidents of sexual misconduct directly to the campus Title IX Coordinator. As detailed above, in the "Privileged and Confidential Communications" section of this policy, all university employees except physicians, licensed professional counselors, licensed clinical social workers, sexual assault counselors and advocates, must report to the Title IX Coordinator all relevant details about any incidents of sexual misconduct of which they become aware. The university will need to determine what happened - and will need to know the names of the victim(s) and the perpetrator(s), any witnesses, and any other relevant facts, including the date, time, and specific location of the incident.

To the extent possible, information reported to the Title IX Coordinator or other university employees will be shared only with individuals responsible for handling the university's response to the incident. The university will protect the privacy of individuals involved in a sexual misconduct violence incident except as otherwise required by law or university policy. A report of sexual misconduct may result in the gathering of extremely sensitive information about individuals in the campus community. While such information is considered confidential, university policy regarding access to public records and disclosure of personal information may require disclosure of certain information concerning a report of sexual misconduct. In such cases, efforts will be made to redact the records, as appropriate, in order to protect the victim's identity and privacy and the privacy of other involved individuals. Except as detailed in the section on "Privileged and Confidential Communications" above, no university employee, including the Title IX Coordinator, should disclose the victim's identity to the police without the victim's consent or unless the victim has also reported the incident to the police.

If a victim requests of the Title IX Coordinator or another university employee that their identity remain completely confidential, the Title IX Coordinator will explain that the university cannot always honor that request or guarantee complete confidentiality. If a victim wishes to remain confidential or request that no investigation be conducted or disciplinary action taken, the university must weigh that request against the university's obligation to provide a safe, non-discriminatory environment for all students, employees, and third parties, including the victim. Under those circumstances, the Title IX Coordinator will determine whether the victim's request for complete confidentiality and/or no investigation can be honored under the facts and circumstances of the particular case, including whether the university has a legal obligation to report the incident, conduct an investigation or take other appropriate steps. Without information about a victim's identity, the university's ability to meaningfully investigate the incident and pursue disciplinary action against the perpetrator may be severely limited. See Executive Order 1095 (or any successor executive order) for further details around confidential reporting, and other related matters ([calstate.policystat.com/policy/6743499/latest](http://calstate.policystat.com/policy/6743499/latest)).

## Additional Resources

SJSU's sexual misconduct violence prevention and education statement, which includes facts and myths about sexual misconduct violence, at [www.sjsu.edu/diversity/titleix](http://www.sjsu.edu/diversity/titleix).

U.S. Department of Education, regional office  
Office for Civil Rights 50 United Nations Plaza  
San Francisco, CA 94102  
(415) 486-5555  
TDD (877) 521-2172

U.S. Department of Education, national office  
Office for Civil Rights (800) 872-5327  
California Coalition Against Sexual Assault  
1215 K. Street, Suite 1850  
Sacramento, CA 95814  
(916) 446-2520  
<http://calcasa.org/>

Know your rights about Title IX: [www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights](http://www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights)

Domestic and Family Violence, Office of Justice Programs, United States Department of Justice: [ovc.ncjrs.gov](http://ovc.ncjrs.gov)

National Institute of Justice: Intimate Partner Violence, Office of Justice Programs, United States Department of Justice: [www.nij.gov/topics/crime/intimate-partner-violence](http://www.nij.gov/topics/crime/intimate-partner-violence)

National Domestic Violence Hotline: 1-800-799-SAFE (7233): [www.thehotline.org](http://www.thehotline.org)

Office of Violence against Women, United States Department of Justice: [www.justice.gov/ovw](http://www.justice.gov/ovw)

Centers for Disease Control and Prevention: Intimate Partner Violence:  
[www.cdc.gov/ViolencePrevention/intimatepartnerviolence](http://www.cdc.gov/ViolencePrevention/intimatepartnerviolence)

Defending Childhood, United States Department of Justice: [www.justice.gov/archives/defendingchildhood](http://www.justice.gov/archives/defendingchildhood)

*Information regarding the following will be included soon:*

**[LOCAL COMMUNITY RESOURCE INFORMATION:  
NAME OF AGENCY ADDRESS  
PHONE OFFICE HOURS WEBSITE]**

## SJSU Policies

San José State University does not discriminate on the basis of accent, age, ancestry, citizenship status, color, creed, disability, ethnicity, gender, genetic information, marital status, medical condition, national origin, race, religion or lack thereof, sex, sexual orientation, transgender, or veteran's status. This policy applies to all SJSU students, faculty and staff programs and activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by the university (both on and off campus). Questions regarding this policy should be directed to the Office for Equal Opportunity, 408-924-1115.

San Jose State University is committed to creating a safe, healthy, and supportive learning environment for our whole community. In this spirit, and to comply with educational mandates under CSU Chancellor's Office Executive Order 1095, all students are required to complete sexual assault prevention training annually.

## **Title IX (Nondiscrimination)**

SJSU does not discriminate on the basis of sex in the educational programs and activities it conducts. Such programs and activities include admission of students and employment.

Department of Education, Office for Civil Rights: (800) 421-3481 or [ocr@ed.gov](mailto:ocr@ed.gov)

If you wish to fill out a complaint form online with the OCR, you may do so at:  
[www2.ed.gov/about/offices/list/ocr/complaintintro.html](http://www2.ed.gov/about/offices/list/ocr/complaintintro.html).

Title IX requires the university to adopt and publish complaint procedures that provide for prompt and equitable resolution of gender discrimination complaints, including sexual harassment and misconduct as well as provide training, education and preventive measures related to sex discrimination. CSU Executive Order 1097 (<http://www.calstate.edu/EO/EO-1097-rev-10-5-16.pdf>) is the systemwide procedure for all complaints of discrimination, harassment or retaliation made by students against the CSU, a CSU employee, other CSU students or a third party.

Except as provided below under confidentiality and sexual misconduct, dating violence, domestic violence, and stalking, any University employee who knows or has reason to know of allegations or acts that violate University policy shall promptly inform the Title IX Coordinator. These employees are required to disclose all information including the names of the parties, even where the person has requested that his/her name remain confidential. The Title IX Coordinator will determine whether confidentiality is appropriate given the circumstances of each such incident (see confidential reporting options outlined below).

Regardless of whether an alleged victim of gender discrimination ultimately files a complaint, if the campus knows or has reason to know about possible sexual discrimination, harassment or misconduct, violence, it must review the matter to determine if an investigation is warranted. The campus must then take appropriate steps to eliminate any gender discrimination/harassment/misconduct, prevent its recurrence, and remedy its effects.

Inquiries and complaints concerning the application of Title IX to programs and activities of SJSU may be referred to the Director of Compliance, SAB 106, 408-924-1200 or the Office for Equal Opportunity, UPD 303, 408-924-1115.

## **Reporting to the Title IX Coordinator and Other University Employees**

Most university employees have a duty to report incidents of sexual misconduct when they are on notice of it. When a victim tells the Title IX Coordinator or another university employee about an incident of sexual misconduct, the victim has the right to expect the university to take immediate and appropriate steps to investigate what happened and to resolve the matter promptly and equitably. In all cases, the university strongly encourages victims to report incidents of sexual misconduct directly to the campus Title IX Coordinator. As detailed above, in the "Privileged and Confidential Communications" section of this policy, all university employees except physicians, licensed professional counselors, licensed clinical social workers, sexual assault counselors and advocates, must report to the Title IX Coordinator all relevant details about any incidents of sexual misconduct of which they become aware. The university will need to determine what happened - and will need to know the names of the victim(s) and the perpetrator(s), any witnesses, and any other relevant facts, including the date, time and specific location of the incident.

## **Student Complaint Procedure (Complaints Regarding the CSU)**

The California State University takes very seriously complaints and concerns regarding the institution. If you have a complaint regarding the CSU, you may present your complaint as follows:

1. If your complaint concerns CSU's compliance with academic program quality and accrediting standards, you may present your complaint to the Western Association of Schools and Colleges (WASC) at [www.wascsenior.org/comments](http://www.wascsenior.org/comments). WASC is the agency that accredits the CSU's academic program. If you believe that your complaint warrants further attention after you have exhausted all the steps outlined by WASC, you may file an appeal with the Assistant Vice Chancellor, Academic and Student Affairs at the CSU Chancellor's Office.
2. If your complaint concerns an alleged violation by CSU of any law that prohibits discrimination, harassment or retaliation based on a protected status (such as age, disability, gender (or sex), gender identity, gender expression, nationality, race or ethnicity (including color or ancestry), religion or veteran or military status), you may present your complaint as described in Section XVI (Nondiscrimination Policy).
3. If your complaint concerns an alleged violation by the CSU of other state law, including laws prohibiting fraud and false advertising, you may present your claim to the campus president or designee. See Procedure for Student Complaints-Executive Order No. 1063 for details regarding the complaint requirements and complaint process: [www.calstate.edu/eo/eo-1063.html](http://www.calstate.edu/eo/eo-1063.html).
4. Other complaints regarding the CSU may be presented to the campus dean of students, who will provide guidance on the appropriate campus process for addressing your particular issue.

This procedure should not be construed to limit any right that you may have to take legal action to resolve your complaint.

## Civil and Criminal Penalties for Violation of Federal Copyright Laws

Anyone who is found to be liable for copyright infringement may be liable for either the owner's actual damages along with any profits of the infringer or statutory damages of up to \$30,000 per work infringed. In the case of a willful infringement, a court may award up to \$150,000 per work infringed. (See 17 U.S.C. §504.) Courts also have discretion to award costs and attorneys' fees to the prevailing party. (See 17 U.S.C. §505.) Willful copyright infringement can also result in criminal penalties, including imprisonment and fines. (See 17 U.S.C. §506 and 18 U.S.C. §2319.)

## Health Policies

### Health Risks

Federal Law requires the university to provide a description of health risks associated with alcohol and drug abuse.

### Alcohol

Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident. Low to moderate doses of alcohol also increase the incidence of a variety of aggressive acts. Moderate to high doses of alcohol caused marked impairments in higher mental functions, severely altering a person's ability to learn and remember information. Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described. Repeated use of alcohol can lead to dependence and addiction. Sudden cessation of alcohol intake is likely to

produce withdrawal symptoms, including severe anxiety, tremors, hallucinations and convulsions. Addictions often require medical support. Long-term consumption of large quantities of alcohol, particularly when combined with poor nutrition, can also lead to permanent damage to vital organs such as the brain and liver.

Mothers who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicates that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics.

### **California Alcohol and Drug Abuse Law**

The Alcoholic Beverage Control Act was enacted in 1953. This Act is intended to protect the safety, welfare, health, peace and morals of Californians, eliminate the unlicensed and unlawful manufacture, sale and disposal of alcoholic beverages and promote temperance in the consumption and use of alcoholic beverages. (Bus and Prof. Code 23001)

A person convicted of a violation of the Alcohol and Beverage Control Act is guilty of a misdemeanor or felony depending on the violation.

The Uniform Controlled Substances Act may be found in the Health and Safety Code, Section 11000-11651. This Act is the result of a growing concern over substances. Controlled Substances are divided into five Schedules and the substances under each Schedule may be found in Sections 11053-11058.

### **Local Laws**

Local laws generally are consistent with Federal and State laws.

### **University Regulations**

Use and Abuse of Alcohol and Other Drugs- University Policy F10-1

This policy delineates University policy concerning alcohol and illegal drugs or substances, provides procedural guidelines, and communicates the consequences of failing to adhere to established policies. Provision for the purchase, sale, service, and consumption of alcoholic beverages on campus is a privilege accorded to University members with the understanding that they will comply with internal rules, regulations, and relevant legislation (local, state or national). All members of the University community as well as their guests have a responsibility to ensure that alcohol is used in a responsible manner by persons twenty-one (21) years of age or older. The use of alcohol and other drugs should not interfere with the primary mission of the University as an educational institution.

Review the full policy here <http://www.sjsu.edu/senate/docs/F10-1.pdf>

University regulations controlling student behavior may be found in the Student Conduct Code (Title 5 of the California Code of Regulations Section 41301). The Campus Alcohol Policy includes procedures for serving alcoholic beverages on campus.

The University is required to post in designated areas information concerning the use of anabolic steroids.

### **Conduct Regarding Drugs and Alcohol**

SJSU students, faculty and staff are expected to comply with Federal, State and Local laws governing the use of alcohol and illicit drugs on the University campus and as part of university activities both on and off the campus. These laws control the possession, use and distribution of alcohol and unlawful drugs.

All incoming students are expected required to complete online training on sexual assault and alcohol abuse prevention. Incoming students will receive MySJSU notifications on training dates and course instructions when they are available.

The sale, possession, distribution or use of illicit drugs will not be tolerated. Students, faculty and staff are expected to comply with laws governing the possession, distribution and consumption of alcohol as promulgated by the State of California and the university.

It is the responsibility of every student, faculty member and employee to report incidents involving infractions of federal, state and local drug and alcohol laws on campus or at officially sponsored Off-Campus Activities to the Executive Vice President for Faculty Affairs, the Human Resources Officer or the Vice President for Student Affairs.

As is the case in courts, lack of awareness and/or failure to comprehend the regulations are not acceptable defense of one's actions.

### **Available Drug or Alcohol Counseling and Treatment Programs**

SJSU students are encouraged to seek assistance for drug and alcohol problems at the Counseling & Psychological Services (CAPS) or at the Student Health Center. The State also maintains an Employee Assistance Program to help employees and their dependents with problems of alcohol and drugs.

#### **State Employee Assistance Program**

Concern 1-800-344-4222

[www.concern-eap.com](http://www.concern-eap.com)

#### **Counseling & Psychological Services (CAPS)**

Student Wellness Center, 3rd Floor

408-924-5910

[www.sjsu.edu/counseling/](http://www.sjsu.edu/counseling/)

#### **Student Health Center**

Student Wellness Center 101

408-924-6122 (appointment line)

[www.sjsu.edu/studenthealth/](http://www.sjsu.edu/studenthealth/)

## **Federal Trafficking Penalties**

Federal penalties for trafficking are dependent upon several conditions including the substance, amounts involved and whether the matter is a first or second offense.

Penalties involve monetary sanctions and/or prison terms up to and including life in prison.

Federal Penalties and Sanctions For Illegal Possession Of A Controlled Substance 21 U.S.C. 844(a) - 1st conviction: Up to 1 year imprisonment and fined at least \$1,000 but not more than \$100,000 or both.

After 1 prior drug conviction: At least 15 days in prison, not to exceed 2 years and fined at least \$2,500 but not more than \$250,000 or both.

After 2 or more prior drug convictions: At least 90 days in prison, not to exceed 3 years and fined at least \$5,000 but not more than \$250,000 or both.

Special sentencing provisions for possession of crack cocaine: Mandatory at least 5 years in prison, not to exceed 20 years and fined up to \$250,000 or both if:

- 1st crack conviction and the amount of crack possessed exceeds 5 grams.
- 2nd crack conviction and the amount of crack possessed exceeds 3 grams.



- 3rd or subsequent crack conviction and the amount of crack possessed exceeds 1 gram.
- 21 U.S.C. 853(a)(2) and 881(a)(7) - Forfeiture of personal and real property used to possess or to facilitate possession of a controlled substance if that offense is punishable by more than 1 year imprisonment.
- 21 U.S.C. 881 (a)(4) - Forfeiture of vehicles, boats, aircraft or any other conveyance used to transport or conceal a controlled substance.
- 21 U.S.C. 844a - Civil fine of up to \$10,000 (pending adoption of final regulations).
- 21 U.S.C. 853a - Denial of Federal benefits, such as student loans, grants, contracts and professional and commercial licenses, up to 1 year for first offense, up to 5 years for second and subsequent offenses.
- 18 U.S.C. 922(g) - Ineligible to receive or purchase a firearm.

## Tobacco

As of August 2015, SJSU is a Smoke and Tobacco Free campus. For more information see Presidential Directive (PD1014-01 {<http://www.sjsu.edu/president/directives>}) and CSU Executive Order 1108.

For more information: <http://www.sjsu.edu/tobaccofree/>

### **For tobacco cessation services:**

- Counseling and Psychological Services (CAPS)  
408-924-5910
- Student Health Center- Wellness and Health Promotion  
408-924-6202  
[www.sjsu.edu/wellness/tobacco](http://www.sjsu.edu/wellness/tobacco)
- Low Cost Nicotine Replacement Therapies (NRT):  
Patches and gum are available at Student Health Center Pharmacy  
408-924-6115
- California Smoker's Helpline  
1-800-662-8887 (1-800-NO-BUTTS)
- VA-San Jose Community Clinic  
408-363-3000  
<http://www.paloalto.va.gov/locations/sanjose.asp>

### **Some of the rationale for a smoke free campus includes:**

- Tobacco, both smoked and smokeless, is the leading cause of cancers of the cheeks, gums, palate, tongue and lips.
- A one-pack-a-day smoker increases their chances of cancer of the esophagus by as much as 500%.
- Cigarette smokers are ten times more likely to die of lung cancer than non-smokers.
- Cancer is not the only disease associated with smoking.
- Cigarette smokers are twice as likely to get peptic ulcers as are non-smokers.
- Nicotine is a powerful constrictor of blood vessels and small arteries and results in the restriction of oxygen flow to the heart and elsewhere.
- Heart attacks and strokes are results of oxygen restriction.
- Smoking more than 1/2 pack daily is also associated with higher incidence of infertility in women.
- Babies born to women who smoke are lighter and smaller than those born to non-smokers. This is important because birth weight is a predictor of infant health.

# Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS)

HIV/AIDS is a viral disease which destroys the body's ability to fight specific illnesses.

**The risks of HIV/AIDS can be reduced by:**

- Avoiding the exchange of body fluids. HIV can be passed through the exchange of blood, semen, vaginal secretions and breast milk.
- Using condoms correctly and consistently to greatly reduce the exchange of body fluids.
- Reducing the number of sexual partners.
- Avoiding the use of intravenous drugs or sharing needles.
- Abstinence.
- Communicating with sexual partners before having sex about being tested for sexually transmitted infections and protection.

**For more information about HIV/AIDS prevention, confidential testing, safer sex and free condoms, contact:**

**Student Health Center, Wellness and Health Promotion**

Student Wellness Center 101  
408-924-6280  
[www.sjsu.edu/wellness](http://www.sjsu.edu/wellness)  
[www.sjsu.edu/studenthealth/](http://www.sjsu.edu/studenthealth/)

**For anonymous HIV testing, please contact the following locations:**

**Santa Clara County Public Health (Crane Center)**

976 Lenzen Ave., Suite 1800  
San José, CA 95126  
408-792-3720

**Billy DeFrank LGBT Center**

938 The Alameda  
San José, CA 95126  
408-293-3040

**Asian Americans for Community Involvement (AACI)**

2400 Moorpark Ave #300  
San José, CA 95128  
408-975-2730 ext 381

## Privacy Rights of Students in Education Records

- Career Placement Information
- Student Identification Information

The federal Family Educational Rights and Privacy Act of 1974 (20 U.S.C. 1232g) and regulations adopted thereunder (34 C.F.R. 99) set out requirements designed to protect students' privacy in their records maintained by the campus. The statute and regulations govern access to certain student records maintained by the campus and the release of such records. FERPA provides that the campus must give students access to most records directly related to the student, and must also provide opportunity for a hearing to correct the records if the student claims they are inaccurate, misleading, or otherwise inappropriate. The right to a hearing under this law does not include any right to challenge the appropriateness of a grade determined by the instructor. FERPA generally requires the campus obtain a student's written consent before releasing personally identifiable data pertaining to the student. The campus has adopted a set of policies and procedures governing implementation of FERPA and the regulations. Copies of these policies and procedures may be obtained at (designate location on campus). Among the types of information included in the campus statement of policies and procedures are: (1) the types of student records maintained and the information they contain; (2) the official responsible for maintaining each type of record; (3) the location of access lists indicating persons requesting or receiving information from the record; (4) policies for reviewing and expunging records; (5) student access rights to their records; (6) the procedures for challenging the content of student records; (7) the right of the student to file a complaint with the Department of Education. The Department of Education has established an office and review board to investigate complaints and adjudicate violations. The designated office is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C. 20202-5920.

The campus is authorized under the Act to release "directory information" concerning students. "Directory information" may include the student's name, address, telephone listing, electronic mail address, photograph, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, grade level, enrollment status, degrees, honors, and awards received, and the most recent previous educational agency or institution attended by the student. The above-designated information is subject to release by the campus at any time unless the campus has received prior written objection from the student specifying what information the student requests not be released. Written objections should be sent to the Registrar's Office. It should be noted, however, that University Policy S66-20 {<http://www.sjsu.edu/senate/docs/S66-20.pdf>} is more restrictive than the law. SJSU policy guidelines indicate that the only directory information routinely released to outside parties without student consent is enrollment status and degree completion (if applicable). Requests for addresses and telephone numbers are not honored, especially if requested for commercial purposes.

The campus is authorized to provide access to student records to campus officials and employees who have legitimate educational interests in such access. These persons have responsibilities in the campus's academic, administrative or service functions and have reason for accessing student records associated with their campus or other related academic responsibilities. Student records will be disclosed to the Chancellor's Office of the CSU in order to conduct research, to analyze trends, or to provide other administrative services on behalf of the CSU. Student records may also be disclosed to other persons or organizations under certain conditions (e.g., as part of the accreditation or program evaluation; in response to a court order or subpoena; in connection with financial aid; or to other institutions to which the student is transferring).

## University Development (Advancement) Programs

Directory information (see definition earlier) may be used by the university for the development of campus affiliated programs.

## **Career Placement Information**

The Career Center may furnish, upon request, information about the employment of students who graduate from programs or courses of study preparing students for a particular career field. Any such data provided must be in a form that does not allow for the identification of any individual student. This information includes data concerning the average starting salary and the percentage of previously enrolled students who obtained employment. The information may include data collected from either graduates of the campus or graduates of all campuses in the California State University system.

## **Student Identification Information**

### **SJSU ID Number**

San José State University is concerned about keeping your personal data private. We are required to use Social Security numbers to process payroll; award financial aid and document fees paid for tax relief purposes. However, for all other purposes, we will use your SJSU ID number for identification, rather than your Social Security Number.

### **Use of Social Security Number**

Applicants are required to include their correct social security numbers in designated places on applications for admission pursuant to the authority contained in Section 41201, Title 5, California Code of Regulations, and Section 6109 of the Internal Revenue Code (26 U.S.C. 6109). The university uses the social security number to identify students and their records including identification for purposes of financial aid eligibility and disbursement and the repayment of financial aid and other debts payable to the institution. Also, the Internal Revenue Service requires the university to file information returns that include the student's social security number and other information such as the amount paid for qualified tuition, related expenses, and interest on educational loans. This information is used by the IRS to help determine whether a student, or a person claiming a student as a dependent, may take a credit or deduction to reduce federal income taxes.

## Professional Education Scholastic Regulations

Disqualified students may enroll in Professional Education programs; however, the university, in considering applications for readmission and reinstatement, does not accept 400-series course credit as evidence of qualification for reinstatement.

Students desiring to apply extension credit toward the requirements for any degree or teachers' credentials must secure approval from the department that is authorizing the reinstatement.

All students enrolling through Professional Education must meet course prerequisites and are bound by all applicable university regulations given in this catalog, or in the most recent Winter Session, Summer Session or Open University schedule of classes.

Information concerning tuition fees, admission and registration policies and procedures, withdrawal and refund policies, grading systems, academic standards and student advisement may be found in this catalog. Regulations concerning the application of Professional Education credit toward bachelor's degrees and toward residence credit in the university are given elsewhere under Credit for Professional Education.

## State Authorization for Distance Education

Distance education authorization only impacts prospective students who are interested in completing a SJSU degree or certificate program (S16-17) while simultaneously residing in another state.

States expect institutions to obtain approval for regulated activities that occur in their state. These activities may include but are not limited to online learning, practical experiences, faculty teaching from another state, marketing, and advertising. The requirements as to which activities require authorization, the application processes, and the costs to comply vary greatly from state to state. An institution's compliance (or lack thereof) can affect its ability to receive federal financial aid.

## Accreditation

San José State University is accredited by the Senior College and University Commission of the Western Association of Schools and Colleges (ACSWASC). To view SJSU's most recent accreditation letter as well as learn more about visits and reports, please visit SJSU's WASC Accreditation.

## Resolving a Grievance

Students residing outside of California (while attending SJSU's distance education programs) wishing to resolve a grievance should contact the appropriate office (e.g. Bursar's Office, Financial Aid Office etc.). If the issue persists, please follow the CSU Internal Complaint Process.

## CSU Internal Complaint Process

Prior to filing a complaint with a state agency, see Executive Order No. 1063 for details regarding the complaint requirements and process. If you are a student wishing to file a complaint in your home state, please select the state contact at the State Higher Education Executive Officers Association (members list) to file a complaint directly in your state.

### **Arkansas**

Arkansas Higher Education Coordinating Board certification does not constitute an endorsement of any institution, course or degree program. Such certification merely indicates that certain minimum standards have been met under the rules and regulations of institutional certification as defined in Arkansas Code § 6-61-301.

### **Georgia**

After exhausting the below CSU Student Internal Complaint Process, Georgia residents may also file a complaint with the State of Georgia Nonpublic Postsecondary Education Commission using the student complaint form.

### **Maryland**

1. Information on registration with the Commission can be found on online.
2. The process for Maryland students to make complaints can be found on online.

### **Minnesota**

San Jose State University is registered with the office pursuant to sections 136A.61 to 136A.71. Registration is not an endorsement of the institution. Credits earned at the institution may not transfer to all other institutions.

### **Oregon**

According to the Oregon Administrative Rules (OAR 583-030-0035(18)(c)), after classes begin for a term, an Oregon student who withdraws from a course is eligible for a partial refund through the middle week of the term. Refunds shall be based on unused instructional time and shall be prorated on a weekly basis for schools using a semester calendar.

## **Refund Policy**

If SJSU plans to be authorized to offer a program in a particular state but does not obtain approval before the term starts, the student's application fee will be refunded.

## **For More Information**

Visit the SJSU's State Authorization website, or contact [stateauthorization@sjsu.edu](mailto:stateauthorization@sjsu.edu).

## Student Rights, Responsibilities & Conduct

- University Policies
- Academic Standards
- Attendance Policy
- Academic Integrity Policy
- Complaints
- Complaint Procedures - Alleged Violations of State Law
- Course Syllabi
- Equal Opportunity
- Establishing a Committed Presence in Class
- Faculty Office Hours
- Disciplinary Action Statement
- Student Fairness Committee
- Ombudsperson
- Religious Holidays
- Student Conduct & Ethical Development
- Student Conduct Code
- Student Conduct Procedures
- Student Discipline and Conduct
- Student Disciplinary Process
- California Code of Regulations
- Drug-Free Schools Statement
- Safety Report
- Sexual Harassment

View other related sections in the catalog:

- CSU Nondiscrimination Policy and Complaint Procedures
- Title IX (Nondiscrimination)
- Privacy Rights of Students in Education Records
- Professional Education Scholastic Regulations

## University Policies

To see official SJSU University Policies, see [www.sjsu.edu/senate/policies](http://www.sjsu.edu/senate/policies).

## Academic Standards

Students studying for a baccalaureate degree are expected to maintain a grade point average of 2.0 "C" or better in their academic work at SJSU and in their overall collegiate record in order to continue in good standing. In determining a student's eligibility to remain enrolled in the university, both quality of performance and progress toward the student's objective are weighed. Use of grade points and grade point average for all letter-graded courses determines quality of performance. The length of time in meeting requirements is a factor in determining progress toward objectives. While the Registrar's Office makes every effort to notify students of their academic status, it is the

student's responsibility to continuously monitor his or her own academic standing at MySJSU (which can be accessed through the One.SJSU.edu portal) (one.sjsu.edu).

## Attendance Policy

University Policy F15-12, Attendance and Participation

Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for material discussed therein, and active participation is frequently essential to ensure maximum benefit to all class members. In some cases, attendance is fundamental to course objectives; for example, students may be required to interact with others in the class. Attendance is the responsibility of the student.

Participation may be used as a criterion for grading when the parameters and their evaluation are clearly defined in the course syllabus and the percentage of the overall grade is stated.

View the policy in its entirety here: F15-12.pdf

## Academic Integrity Policy

The University emphasizes responsible citizenship and an awareness of ethical choices inherent in human development. Academic honesty and fairness foster ethical standards for all those who depend upon the integrity of the university, its courses, and its degrees. University degrees are compromised and the public is defrauded if faculty members or students knowingly or unwittingly allow dishonest acts to be rewarded academically. This policy sets the standards for such integrity and shall be used to inform students, faculty and staff of the university's Academic Integrity Policy. See University Academic Integrity Policies at <http://www.sjsu.edu/studentconduct/policies/>

## Student Role

The San José State University Academic Integrity Policy requires that each student:

1. Know the rules that preserve academic integrity and abide by them at all times. This includes learning and abiding by rules associated with specific classes, exams and course assignments.
2. Know the consequences of violating the Academic Integrity Policy.
3. Know the appeal rights, and the procedures to be followed in the event of an appeal.
4. Foster academic integrity among peers.

## Faculty Member Role

The San José State University Academic Integrity Policy requires that each faculty member:

1. Provide a clear and concise course syllabus that apprises students of the Academic Integrity Policy and the ethical standards and supporting procedures required in a course.
2. Make every reasonable effort to foster honest academic conduct. Specifically, examinations should be appropriately proctored or monitored to prevent students from copying, using non-cited resources, or exchanging information. Examinations and answers to examination questions should be kept private. Efforts should be made to give unique and varied assignments.
3. Take action against a student in accordance with this policy when supporting evidence indicates that the student has violated the Academic Integrity Policy.
4. Comply with the rules and standards of the Academic Integrity Policy.



# Office of Student Conduct and Ethical Development

## Role

The San José State University Academic Integrity Policy requires that the Student Conduct Administrator:

1. Comply with and enforce the Student Conduct Code ([www.sjsu.edu/studentconduct](http://www.sjsu.edu/studentconduct)) which includes the Academic Integrity Policy.
2. Adjudicate student conduct cases and assign administrative sanctions to students who have violated the Student Conduct Code.
3. Serve as a resource for faculty, staff and students on matters of academic integrity and this policy.
4. Ensure dissemination of the policy to the campus community when changes are made to the policy or procedures.

## 1.0 Definitions Of Academic Dishonesty

### 1.1 Cheating

At SJSU, cheating is the act of obtaining or attempting to obtain credit for academic work through the use of any dishonest, deceptive, or fraudulent means. Cheating at SJSU includes but is not limited to:

- 1.1.1. Copying, in part or in whole, from another's test or other evaluation instrument including homework assignments, worksheets, lab reports, essays, summaries, quizzes, etc.;
- 1.1.2. Submitting work previously graded in another course without prior approval by the course instructor or by departmental policy;
- 1.1.3. Submitting work simultaneously presented in two or more courses, without prior approval of all course instructors or by the department policies of all departments;
- 1.1.4. Using or consulting sources, tools, or materials prohibited by the instructor prior to or during an examination;
- 1.1.5. Altering or interfering with the grading process;
- 1.1.6. Sitting for an examination by a surrogate, or as a surrogate;
- 1.1.7. Any other act committed by a student in the course of their academic work which defrauds or misrepresents, including aiding others in any of the actions defined above.

### 1.2 Plagiarism

At SJSU plagiarism is the act of representing the work of another as one's own without giving appropriate credit, regardless of how that work was obtained, and/or submitting it to fulfill academic requirements. Plagiarism at SJSU includes but is not limited to:

- 1.2.1 knowingly or unknowingly incorporating the ideas, words, sentences, paragraphs, parts of sentences or paragraphs, or the specific substance of another's work without giving appropriate credit, and representing the product as one's own work;
- 1.2.2 Representing another's artistic/scholarly works such as computer programs, instrument printouts, inventions, musical compositions, photographs, paintings, drawings, sculptures, novels, short stories, poems, screen plays, or television scripts, as one's own.

## 2.0 Notification of Standards of Detecting Plagiarism

San José State University or its faculty may subscribe to or use plagiarism-detection services. Any plagiarism-detection service used by faculty or with which San José State University contracts shall ensure compliance with FERPA, university data security policies, and accessibility requirements.

Except for the stated purpose of storing submitted work in databases solely for the purpose of detecting plagiarism, any plagiarism-detection service with which San José State University contracts shall, to the fullest extent possible, agree to assure that ownership rights of all submitted work shall remain with the work's author and not with the plagiarism-detection service.

## 3.0 Sanctions

There shall be two major classifications of sanctions that may be imposed for violations of this policy: academic and administrative. Academic sanctions are those actions related to the course work and/or grades which are the province of the faculty. Administrative sanctions are concerned with a student's status on campus and are acted on by the Office of Student Conduct and Ethical Development. The imposition of either an academic or administrative sanction will not preclude the additional imposition of the other.

### 3.1 Academic Sanctions

Faculty members are responsible for determining the type of academic sanction to be applied to students involved in incidents of cheating or plagiarism. Faculty may find it helpful to consult with their department chair, senior faculty, and/or the Conduct Officer in consideration of appropriate academic sanctions. Such sanctions shall be proportional to the offense against the Academic Integrity Policy that has occurred. Usually a form of "grade modification" will be employed. Before sanctions can be employed, the faculty member must have verified the instances of academic dishonesty by personal observation and/or documentation. In all cases, the violation must be reported to the Office of Student Conduct & Ethical Development on the reporting form for violations to the Academic Integrity Policy:

Recommended academic sanctions include:

- 3.1.1 oral reprimand;
- 3.1.2 repetition of the assignment with sufficient change in instructions such that none of the original assignment can be utilized;
- 3.1.3 lower grade on the evaluation instrument;
- 3.1.4 failure on the evaluation instrument;
- 3.1.5 reduction in course grade;
- 3.1.6 failure in the course;
- 3.1.7 recommendation of additional administrative sanctions (SCED to review for possible violations of the Student Conduct Code).

### 3.2 Administrative Sanctions

As stipulated in the California Administrative Code, Section 41301, cheating or plagiarism in connection with an academic program may warrant expulsion, suspension, probation or a lesser sanction. Administrative action involving academic dishonesty at SJSU is the responsibility of the Office of Student Conduct & Ethical Development.

The Office of Student Conduct & Ethical Development will respond to:

1. referrals from the faculty of violations of the Academic Integrity Policy;
2. repeat violations as brought to attention by the faculty or through the centralized reports filed in the Office of Student Conduct & Ethical Development.

Faculty members will be notified by the Office of Student Conduct & Ethical Development when action has been taken. The Office of Student Conduct & Ethical Development shall maintain a record of students who have been reported for violating the Academic Integrity Policy. The information in this record will be used to identify and discipline students who have been reported.

## 4.0 Evaluation and Reporting

When a faculty member suspects and has supporting evidence to substantiate that the behavior of a student or students fall(s) within one or both of the above sets of definitions, it is the faculty member's responsibility to take the following steps:

4.1 Confront the situation discretely; that is, faculty members shall not discuss specific charges of cheating, plagiarism, or any other violations involving specific individuals in the classroom or elsewhere before other members of the class.

4.2 Communicate with the student concerning the alleged violation and arrange for a conference to present documentation. In this conference, the student should be advised of the allegation and be made aware of the supporting evidence and probable consequences. The student should be provided the opportunity to provide his/her perspective and respond to the allegation. Faculty members should make their best effort to meet with the student in person, but if that is not feasible, they can communicate in writing. The faculty member is expected to maintain in confidence notes and communications between the student and the faculty member except as they may be relevant in subsequent disciplinary proceedings or any subsequent legal actions.

4.3 Inform the student of the sanctions imposed in accordance with Section 4.0 if the faculty member still believes that a violation of the Academic Integrity Policy has occurred.

4.4 Report the alleged infraction and the academic action taken to the Office of Student Conduct & Ethical Development on the reporting form for violations to the Academic Integrity Policy. The form identifies the faculty member, student involved, and type of violation (cheating or plagiarism) and includes a description of the incident and the academic sanctions imposed. Office of Student Conduct & Ethical Development shall review the academic sanctions imposed by the faculty member and determine whether they are justified in light of the provisions of the Student Conduct Code and commensurate with university norms of severity. Office of Student Conduct & Ethical Development shall further determine whether it will impose administrative sanctions. The faculty member must submit a copy of the supporting documentation to the Academic Integrity Reporting Form. After this initial report, no additional academic sanctions may be levied. Academic sanctions may not be imposed without a report to the Office of Student Conduct & Ethical Development. Should the faculty member neglect to file an appropriate report to the Office of Student Conduct & Ethical Development, any academic sanction imposed is invalid until the report is filed. All instances of ethical misconduct should be known to the university and reported to the Office of Student Conduct & Ethical Development. They should be reviewable and alterable by university oversight personnel, specifically the Director of the Office of Student Conduct & Ethical Development.

4.4 The instructor may impose the recommended penalty and make the report called for in section 4.4 without a conference when a student fails to attend a scheduled conference to discuss the alleged dishonesty, or when the apparent dishonesty is detected only near the end of the semester and the faculty makes a good-faith effort to contact the student but is unable to do so. In either case, the student's right to appeal is preserved.

## 5.0 Protection of Rights

Nothing in this policy is intended to deny students who come within its scope appropriate "due process," including the right to be informed of the charges, the nature of the evidence supporting the charges, and to have a meeting with the faculty member, the Office of Student Conduct & Ethical Development or other decision-makers, at which time statements and evidence on behalf of the student may be submitted. Nor is it intended to deny the right to appeal, through appropriate university channels, any decision resulting from such a meeting.

5.1 Students are guaranteed due process, including the right to be informed of the charges and nature of the evidence supporting the charges and to have a meeting with the faculty member, Office of Student Conduct & Ethical Development, or other decision makers. At any such meeting, statements and evidence on behalf of the student may

be submitted. This policy is not intended to deny the right to appeal of any decision through appropriate university channels.

5.2 Office of Student Conduct & Ethical Development shall review the academic sanction imposed by a faculty member on a student and determine whether evidence exists in support of the instructor's allegation. It shall also make an assessment of the proportionality of the sanction to the severity of the infraction and may recommend a reduction or increase in sanction severity. This assessment shall be made in consideration of consistency across the campus.

5.3 If upon review by the Office of Student Conduct & Ethical Development, the student is found not responsible of the charges or if insufficient evidence has been presented by the instructor to establish responsibility, then the student shall be exonerated and the case dismissed. In this event, the record of the alleged violation shall be expunged and academic sanctions against the student prohibited, barring an appeal by the faculty member to the Board of Academic Freedom and Professional Responsibility (BAFPR). If the Office of Student Conduct & Ethical Development finds that sanctions should be modified, the instructor must make those modifications, again barring an appeal by the faculty member to the BAFPR. Should the instructor refuse to lift or modify the sanctions recommended by SCED, the case shall be referred to the BAFPR. This section represents an exception to University Policy S99-9, Section IV.2.

5.4 If the BAFPR upholds the findings of the Office of Student Conduct & Ethical Development to exonerate the student or to modify the sanction, the instructor must lift the sanction imposed or modify it accordingly. If the instructor refuses to do so, as per CSU Executive Order 1037, "it is the responsibility of other qualified faculty to do so ... [i.e.] one or more persons with academic training comparable to the instructor of record who are presently on the faculty at that campus." Preferably, the department chair or school director, in conjunction with associate dean of the relevant college, shall be compelled to do so. If the remedial action has not been taken within a reasonable time as determined by the BAFPR, a request to the President, Provost or appropriate vice president can be made by the BAFPR chair and/or student to expedite the resolution.

5.5 All reasonable accommodations shall then be provided to the exonerated student if there is a fear of retaliation by the instructor. Accommodations might include the ability to retake the course without charge from a different instructor or to substitute a different course (the latter if approved by the student's advisor). If retaking the same course, credit for assignments completed in the previous attempt shall be afforded if comparable. Academic standing shall revert to the standing that would have existed if the sanction had not been imposed.

Student Appeal Process. An appeal must be filed in writing to the BAFPR before the last day of instruction of the semester following that in which the academic sanction was imposed. The sanctions imposed and the Office of Student and Ethical Conduct findings shall be taken up by the BAFPR within 30 days of the official filing of the appeal. Evidence submitted by both student and faculty member shall be considered and the determination of responsibility shall be assessed.

## 6.0 Threats

Any threats against any member of the faculty as a consequence of implementing this policy on academic integrity shall be cause for disciplinary action under Section 41301, Title 5, California Code of Regulations, and may also result in civil and criminal action.

## 7.0 Dissemination of Information

7.1 This policy shall be published in the University Catalog and on the university website. There shall also be copies of this policy in every department office and in the Office of Student Conduct & Ethical Development.

7.2 Dissemination of this information shall be the responsibility of the Office of Student Conduct & Ethical Development. Information is available at [http:// www.sjsu.edu/studentconduct](http://www.sjsu.edu/studentconduct)

7.3 The Office of Student Conduct & Ethical Development shall submit a statistical report on the number and type of infractions and their eventual disposition to the Academic Senate annually.

7.4 Colleges and departments are encouraged to discuss periodically this policy at faculty meetings, including discussion of strategies for ensuring academic integrity among students and consistency among faculty

7.5 Department chairs and school directors should ensure that new faculty members receive a copy of this policy and a oral explanation at the time they are given their first class assignment.

## Complaints

A student involved in a dispute must first attempt to resolve the matter with the other party. If an agreement is not reached, the student should seek the aid of the University Ombudsperson or the immediate supervisor of the other party. Students may seek the counsel of the Ombudsperson before speaking with parties directly involved in the conflict. If this informal process fails to resolve the matter, the student should contact the University Ombudsperson regarding the formal complaint process.

## Complaint Procedures - Alleged Violations of State Law

### Student/Applicant Complaint Procedure for Alleged Violations of State Law Not Covered by Another CSU Complaint Procedure

This executive order fulfills the requirements of the Higher Education Act Title IV, 34 Code of Federal Regulations sections 600.9(a)(1)(i)(A) and 668.43(b), by establishing a complaint procedure for CSU students and student applicants alleging that the CSU has violated one or more state laws, where there is no other applicable CSU complaint procedure.

#### 1. Scope of Procedure

This complaint procedure is for CSU students and student applicants who believe the CSU has violated one or more state laws. It does not encompass complaints already covered by another CSU complaint procedure (e.g., student complaints alleging discrimination, harassment and retaliation, covered by Executive Order No. 1045). It also does not encompass complaints regarding CSU's compliance with academic program quality and accrediting standards; such complaints may be filed with the Western Association of Schools and Colleges (WASC), the agency that accredits the CSU's academic program, at <http://www.wascsenior.org/comments>.

#### 2. The Complaint

1. The complaint must be filed within 30 work days of the CSU's alleged violation of one or more state laws, or the complainant's discovery thereof.
2. The complaint must be made in writing and clearly indicate the intent to file a complaint alleging that the CSU violated one or more state laws or specifically reference this executive order.
3. The complaint must contain the following:
  1. The complainant's name, student I.D. number, mailing address and telephone number.

2. The term and year of the complainant's last active academic status or the term and year the complainant sought admission to the university.
  3. A detailed description of the specific actions that constituted the alleged violation of one or more state laws, including the specific law or laws alleged to have been violated and, if known, the name(s) and title(s) of the responsible CSU employee(s).
  4. The date(s) the alleged improper activities occurred or the condition developed.
  5. A list of witnesses, if any, including their contact information and the facts known by each.
  6. Copies of any documentary evidence that supports the complaint.
  7. Descriptions of documents that support the complaint and, if known, where the documents are maintained and by whom if the actual documents are not in the possession of the complainant.
  8. A dated and signed statement by the complainant under penalty of perjury that the complaint is true, or is believed by the complainant to be true.
4. The complaint may be filed with the campus president or designee ("campus administrator").
  5. The complaint must be personally delivered, or sent by electronic or certified mail. The complaint filing date is the date of personal service, the date on the electronic transmission or the postmark date of the mailing.

3. The Level I Campus Investigation

1. The campus administrator shall review the complaint to determine whether it is timely filed, contains all the required information and falls within the scope of this executive order. If it does, the campus administrator shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has been accepted. If it is untimely or does not contain all of the required information, the campus administrator shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has not been accepted and state the reasons.

If it is determined that the complaint falls within the scope of another CSU complaint procedure, the campus administrator shall forward the complaint to the appropriate campus official and shall notify the complainant in writing within 10 work days of receipt of the complaint that the complaint has been deemed to fall within the scope of another CSU complaint procedure, why, and to whom the complaint has been forwarded. The administrator shall not forward the complaint or disclose the complainant's identity to anyone who has or appears to have a conflict of interest in regard to the allegation(s).

2. If the complainant raises any new allegations after the complaint has been accepted, the campus administrator shall decide whether to include those allegations as part of the complaint. If they are not included as part of the initial complaint, the complainant shall be advised of the need to file a new complaint to address those allegations.
3. The campus administrator shall investigate the claim, or may appoint a third party to conduct an investigation. The investigator shall be a management personnel plan employee or an external consultant experienced in conducting investigations. If the complaint is against the CSU, the chancellor or any Chancellor's Office employee, campus president or vice president, the campus administrator shall consult with the Associate Vice Chancellor, Academic Affairs at the Chancellor's Office, who shall determine the appropriate handling of the complaint. The timelines and procedures for the process remain the same.
4. The complainant is required to fully cooperate in the investigation, and must participate in a timely intake interview. If the complainant does not cooperate, the campus administrator may end the investigation.
5. CSU employees are required to cooperate with the investigation, be truthful, maintain confidentiality, and provide all relevant and/or requested information to the investigator.
6. Complaints and other information gathered during the course of the investigation by the university shall be shared only with individuals who have a legitimate business reason to know.

4. The Level I Campus Decision

The campus administrator shall make the final decision and issue a letter of determination to the complainant no later than 60 work days from the date the complaint was filed, unless s/he determines that

extenuating circumstances warrant an extension of time. In no case shall the decision letter be issued later than 90 work days from the date the complaint was filed.

1. Within the investigation period, the investigator must make findings of fact and conclusions regarding the allegations, which s/he shall reduce to an investigative report. Preponderance of the evidence is the applicable standard: in order to establish a fact, the investigator must find that the evidence on one side outweighs the evidence on the other side.
  2. The report should include the following information:
    1. A summary of the allegations.
    2. A description of the investigative process.
    3. The preponderance of the evidence standard used to determine whether a violation occurred.
    4. The evidence considered.
  3. A determination of whether the allegations were found to be substantiated.
  4. Within the time frame specified above, the campus administrator shall notify the complainant in writing of the outcome. The notification should include a summary of the allegations, a description of the investigative process, the preponderance of the evidence standard used, the evidence considered and a determination of whether the allegations were found to be substantiated. The notification shall also inform the complainant what, if any, actions were or will be taken (specific employee discipline is confidential), and of his/her option to file an appeal under Article V of this executive order. The campus administrator shall maintain a copy of the notification as required by the applicable document retention policy(ies).
5. The Level II Chancellor's Office Review and Decision
1. If the complainant is not satisfied with the campus decision, s/he may file a Level II appeal with the Office of the Chancellor no later than 10 work days after receipt of the Level I decision. Level II appeals shall be addressed to: Associate Vice Chancellor, Academic Affairs, CSU Office of the Chancellor, 401 Golden Shore 6th Floor, Long Beach, California 90802.
  2. The appeal shall be in writing and must detail the specific disagreements with the campus decision. The issues raised on appeal shall be limited to those raised during the Level I process.
  3. The Associate Vice Chancellor, Academic Affairs or designee shall review the issues raised on appeal to determine whether the campus has adequately processed and addressed the complaint and/or whether the preponderance of the evidence indicates that there has been a violation of state law.
  4. The Associate Vice Chancellor, Academic Affairs or designee shall issue a decision no later than 60 work days after receipt of the appeal unless s/he determines that extenuating circumstances warrant an extension of time. In no case shall the final decision letter be issued later than 90 work days from the date the appeal was filed. The decision shall include a summary of the issues raised on appeal, a description of the review process, the preponderance of the evidence standard used, the evidence considered and a final decision. The notification shall also inform the complainant what, if any, actions were or will be taken (specific employee discipline is confidential), and note that the CSU's review of the complaint is now considered final and complete. A copy of the final decision letter shall be provided to the campus administrator.
6. General Provisions
1. Work days are defined as Monday through Friday, excluding all official holidays or campus closures at the campus where the complaint originated.
  2. A student/applicant must proceed with a complaint in good faith. A student who knowingly and intentionally files a false complaint, abuses this policy, or files a malicious or frivolous complaint may be subject to discipline. Discipline shall be taken in accordance with Section 41301, Title 5, California Code of Regulations.
  3. When issuing a Level I or II response, personal delivery or certified mail shall be used. If personal delivery is used, a signature acknowledging the calendar date of delivery shall be obtained which will establish the date of response. If certified mail delivery is used, the postmark shall establish the date of response.
  4. The CSU is not obligated under this executive order to investigate a complaint not timely filed under its provisions. Regardless, the CSU may investigate the underlying allegations if it determines the

circumstances warrant investigation. Also, if the circumstances warrant investigation, the CSU may waive the time limits and choose to process the complaint under the complaint process set forth herein.

5. CSU will notify the California Department of Finance, Office of State Audits and Evaluation, and the Bureau of State Audits, of all cases of actual or suspected fraud, theft or other irregularities it learns of as the result of any complaint made under this executive order.
6. Time periods set forth in this executive order may be extended by the campus administrator and, at Level II, by the Associate Vice Chancellor, Academic Affairs up to the specified maximums, if any, provided s/he informs the complainant of the new time period in writing.
7. Care shall be taken to keep confidential the identity of the complainant in so far as feasible and consistent with the law.
8. CSU employees are prohibited from retaliating against complainants or others who cooperate with the investigation.

Effective: September 1, 2011

## Model Complaint Procedure

Model complaint procedure for CSU students/applicants in compliance with HEA Title IV, 34 CFR, Sections 600.9(a)(1)(i)(A) and 668.43(b)

### Student/Applicant Complaint Procedure Notice

The California State University takes very seriously complaints and concerns regarding the institution. If you have a complaint regarding the CSU, you may present your complaint as follows:

1. If your complaint concerns CSU's compliance with academic program quality and accreditation standards, you may present your complaint to the Western Association of Schools and Colleges (WASC) at <http://www.wascsenior.org/comments>. WASC is the agency that accredits the CSU's academic program.
2. If your complaint concerns an alleged violation by CSU of a state law, including laws prohibiting fraud and false advertising, you may present your claim to the campus president or designee at [e-mail address]. The president or designee will provide guidance on the appropriate campus process for addressing your particular issue.

If you believe that your complaint warrants further attention after you have exhausted all the steps outlined by the president or designee, or by WASC, you may file an appeal with the Associate Vice Chancellor, Academic Affairs at the CSU Office of the Chancellor.

Note: Most complaints made to media outlets or public figures, including members of the California legislature, Congress, the Governor, or individual CSU trustees, are referred to the chancellor of the CSU.

Nothing in this disclosure should be construed to limit any right that you may have to take civil or criminal legal action to resolve your complaint.

The CSU has provided this disclosure to you in compliance with the requirements of the Higher Education Act of 1965, as amended, as regulated in 34 Code of Federal Regulations sections 600.9(a)(1)(i)(A) and 668.43(b).

## Course Syllabi

Course Syllabi, University Policy, S16-9.pdf

Course syllabi enable students to better understand and fulfill their responsibilities as learners in courses. They are a necessary tool in higher education to enable students to take part in the learning process through knowing what is expected of them and what they can expect from the course. Student success is aided by students knowing in



advance as much as possible about the course requirements so that they can plan their study time and coordinate work on assignments from multiple courses. Student success is also aided by encouraging students to contact their professors and providing information about key university policies to which they are subject. In addition, syllabi provide an opportunity to model thorough, clear, professional communication.

Review Syllabi Information Website.

## Educational Equity

The California State University defines "educational equity" to be "...justice, equal opportunity, fairness and impartiality in the educational processes affecting under represented minorities. It involves the implementation of programs designed to attract, admit and support students heretofore excluded from full participation in the university by conditions of educational and economic disadvantages" (Educational Equity: A Continuing Commitment, published by the California State University, 1989).

The Office of Diversity, Equity and Inclusion leads university-wide efforts to ensure a welcoming, safe climate for every member of the San Jose State community.

San José State University defines diversity as the active appreciation, engagement, and support of ALL campus members in terms of their backgrounds, identities and experiences (as constituted by gender, socioeconomic class, political perspective, age, race, ethnicity, religion, sexual orientation, disability, regional origin, nationality, occupation, language, among others, and the intersection of these aspects).

For more information, visit: [www.sjsu.edu/diversity](http://www.sjsu.edu/diversity).

## Equal Opportunity

San José State University does not discriminate on the basis of accent, age, ancestry, citizenship status, color, creed, disability, ethnicity, gender, genetic information, marital status, medical condition, national origin, race, religion or lack thereof, sex, sexual orientation, transgender, or veteran's status. This policy applies to all SJSU students, faculty and staff programs and activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of sex in all education programs and activities operated by the university (both on and off campus). Questions regarding this policy should be directed to the Office for Equal Opportunity, 408-924-1115

The California State University is committed to providing equal opportunities to men and women CSU students in all campus programs, including intercollegiate athletics.

For more information, please visit: [www.sjsu.edu/hr/about us/hr](http://www.sjsu.edu/hr/about%20us/hr).

## Establishing a Committed Presence in Class

Establishing a Committed Presence in a Class, University Policy F15-3.pdf

Six instructional days before Census Day, i.e. the 14th day of instruction, is the last day for the student to add a class; this is also the last day for an instructor to drop a student who fails to establish a committed presence in the class. "Establishing a committed presence" is defined as the following options for the student:

- In-person classes. Attending the first class meeting or informing the instructor of the intention to continue in the class before 48 hours after the first official class meeting.

- Online classes. Logging on to the LMS class shell on the first scheduled day of the class or informing the instructor of the intention to continue in the class before 48 hours after the official class start date.

## Faculty Office Hours

University Policy S12-1.pdf, Faculty Office Hours

Today's teaching and learning dynamics have changed dramatically for both students and faculty, with a much greater reliance on electronically mediated methods for communication. Faculty may now spend many hours in "unofficial" office hour time (including evenings and weekends) responding to students' instructional needs. These consultations are frequently held outside of the physical "official" office hours, but nonetheless constitute instructional and advising time. Faculty members are expected to be available to their students for instruction-related support and advising. To achieve this availability faculty members are expected to schedule office hours during which they will be available to their students for consultation.

## Disciplinary Action Statement

Students who fail to comply with federal, state, and local laws governing the use of alcohol, illicit drugs, and other grounds upon which student discipline can be based, will be subject to sanctions ranging from disciplinary probation up to and including expulsion from the California State University. California State University Executive Order 1098 entitled Student Conduct Procedures governs the procedures that the University follows in student discipline cases.

Any permanent or probationary employee of the California State University may be dismissed, demoted or suspended for any one of several causes, including addiction to the use of controlled substances, conviction of a felony or conviction of any misdemeanor involving moral turpitude or drunkenness on duty (Educ. Code 89535). Employees challenging the imposition of such sanctions may appeal to the State Personnel Board and receive a hearing before an impartial body. Faculty employees have alternative appeal processes outlined in their collective bargaining agreement.

## Student Fairness Committee

The Student Fairness Committee is under the jurisdiction of the university's Academic Senate and is guided by University Policy S14-3.pdf. This committee hears complaints of violations of student rights in instructional and curricular matters, including grade appeals, and, when appropriate, makes recommendations for redress. The committee also hears and seeks redress of non-instructional student grievances concerning individual members of the faculty, administration or staff and, when appropriate, makes recommendations for redress.

A grievance can be brought as a result of an unauthorized or unjustified act or decision by a member of the faculty or staff or an administrative officer which in any way adversely affects the status, rights, or privileges of a student. The SFC does not have the authority to receive complaints on matters of sexual harassment, civil rights, disability rights, or equity and diversity. Nor does the SFC deal with allegations of violations of the student code of conduct.

Disputes arising out of assignment of grades or grade appeals shall be considered and decided in accordance with Executive Order 1037. There is a presumption that grades assigned are correct. It is the responsibility of anyone appealing an assigned grade to demonstrate otherwise (EO 1037).

The SFC will hear grade dispute petitions when petitions are deemed to be appropriate and include evidence related to the following conditions:

1. When there is evaluation of students that differs from announced requirements.

2. When there are belated impositions of requirements.
3. When grades are based on criteria other than academic performance in the course.
4. When grading criteria do not provide a clear and consistent method of evaluating students' work or performance.
5. When students' requests for information during the semester regarding their academic progress in the course are not responded to in a reasonable time (e.g., two weeks after the request is made).
6. When students' requests for an explanation of how the posted course grades for a term were determined are not responded to in a reasonable time (e.g., the later of two weeks after the request is made or one week before the add deadline for the fall or spring semester following the term in question).
7. When students are penalized for expressing opinions.
8. When students are given to understand that they are removed from a course without due process of a hearing

Petitions must be filed no later than the end of the subsequent fall or spring semester following that in which the alleged cause of the dispute occurred. Prior to lodging a formal complaint, the student must secure informal, confidential advisement from the University Ombudsperson. Before the committee will accept a petition, the student must exhaust all available avenues for informal resolution (i.e., prior to filing a petition, consult with the instructor, Department Chair, and the College Dean - if applicable - about the specific complaint).

Any student may contact the University Ombudsperson ADM 269, 408-924-5995.

## Ombudsperson

### What steps should I take if I feel my rights have been violated?

If you feel that your rights have been violated or you would like to have an informal discussion with a confidential and neutral point person on campus you are encouraged to connect with the University Ombudsperson.

The University Ombudsperson is an advocate for procedural fairness who supports the integrity of the campus policies and procedures and ensures the equity of their application.

The Ombudsperson provides a neutral, confidential, and informal place to discuss a concern with the assurance that no action will be taken, nor will the visit be disclosed to anyone, without consent.

#### **For More Information:**

##### **Administration 269**

408-924-5995  
ombuds@sjsu.edu  
www.sjsu.edu/ombudsperson

## CSU and SJSU Administrative Items

- SJSU Policies - View a list of current University Policies listed chronologically
- Coded Memos - Coded Memos for the CSU system affecting Academic and Student Affairs
- Executive Orders - CSU Executive Orders Indexed by Number
- Presidential Directives - SJSU - Presidential directives and memos address campus/university policies, issues and various topics

# Religious Holidays

Accommodation to Students' Religious Holidays, University Policy S14-7.pdf

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed.

# Student Conduct & Ethical Development

Student Conduct and Ethical Development promotes fairness and consistency in the administration of the student conduct process while supporting a safe and inclusive living and learning environment. Student Conduct and Ethical Development commits to the principles of empathy, ethics, equity, integrity, and respect.

Through effective prevention (interactions, outreach, presentations) and response (student conduct process) initiatives, Student Conduct and Ethical Development facilitates ethical development, effective decision making, and problem solving skills and contributes to students' personal and academic success.

## Student Conduct & Ethical Development

ADM 218  
408-924-5985  
[www.sjsu.edu/studentconduct](http://www.sjsu.edu/studentconduct)

# Student Conduct Code

Title 5, California Code of Regulations, §41301. Standards for Student Conduct

## 1. Campus Community Values

The university is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end. Students are expected to be good citizens and to engage in responsible behaviors that reflect well upon their university, to be civil to one another and to others in the campus community, and contribute positively to student and university life.

## 2. Grounds for Student Discipline

Student behavior that is not consistent with the Student Conduct Code is addressed through an educational process that is designed to promote safety and good citizenship and, when necessary, impose appropriate consequences.

The following behavior is subject to disciplinary sanctions and are the grounds upon which student discipline can be based:

### 1. Dishonesty, including:

1. Cheating, plagiarism, or other forms of academic dishonesty that are intended to gain unfair academic advantage.
2. Furnishing false information to a university official, faculty member, or campus office.
3. Forgery, alteration, or misuse of a university document, key, or identification instrument.

4. Misrepresenting oneself to be an authorized agent of the university or one of its auxiliaries.
2. Unauthorized entry into, presence in, use of, or misuse of university property.
3. Willful, material and substantial disruption or obstruction of a university-related activity, or any on-campus activity.
4. Participating in an activity that substantially and materially disrupts the normal operations of the university, or infringes on the rights of members of the university community.
5. Willful, material and substantial obstruction of the free flow of pedestrian or other traffic, on or leading to campus property or an off-campus university-related activity.
6. Disorderly, lewd, indecent, or obscene behavior at a university-related activity, or directed toward a member of the university community.
7. Conduct that threatens or endangers the health or safety of any person within or related to the university community, including physical abuse, threats, intimidation, harassment, or sexual misconduct.
8. Hazing, or conspiracy to haze. Hazing is defined as any method of initiation or pre-initiation into a student organization or student body, whether or not the organization or body is officially recognized by an educational institution, which is likely to cause serious bodily injury to any former, current, or prospective student of any school, community college, college, university or other educational institution in this state (Penal Code 245.6), and in addition, any act likely to cause physical harm, personal degradation or disgrace resulting in physical or mental harm, to any former, current, or prospective student of any school, community college, college, university or other educational institution. The term "hazing" does not include customary athletic events or school sanctioned events.

Neither the express or implied consent of a victim of hazing, nor the lack of active participation in a particular hazing incident is a defense. Apathy or acquiescence in the presence of hazing is not a neutral act, and is also a violation of this section.

9. Use, possession, manufacture, or distribution of illegal drugs or drug-related paraphernalia, (except as expressly permitted by law and university regulations) or the misuse of legal pharmaceutical drugs.
10. Use, possession, manufacture, or distribution of alcoholic beverages (except as expressly permitted by law and university regulations), or public intoxication while on campus or at a university-related activity.
11. Theft of property or services from the university community, or misappropriation of university resources.
12. Unauthorized destruction, or damage to university property or other property in the university community.
13. Possession or misuse of firearms or guns, replicas, ammunition, explosives, fireworks, knives, other weapons, or dangerous chemicals (without the prior authorization of the campus president) on campus or at a university-related activity.
14. Unauthorized recording, dissemination, or publication of academic presentations (including handwritten notes) for a commercial purpose.
15. Misuse of computer facilities or resources, including:
  1. Unauthorized entry into a file, for any purpose.
  2. Unauthorized transfer of a file.
  3. Use of another's identification or password.
  4. Use of computing facilities, campus network, or other resources to interfere with the work of another member of the university community.
  5. Use of computing facilities and resources to send obscene or intimidating and abusive messages.
  6. Use of computing facilities and resources to interfere with normal university operations.
  7. Use of computing facilities and resources in violation of copyright laws.
  8. Violation of a campus computer use policy.

16. Violation of any published university policy, rule, regulation or presidential order.
  17. Failure to comply with directions of, or interference with, any University official or any public safety officer while acting in the performance of his/her duties.
  18. Any act chargeable as a violation of a federal, state, or local law that poses a substantial threat to the safety or well-being of members of the university community, to property within the university community or poses a significant threat of disruption or interference with university operations.
  19. Violation of the Student Conduct Procedures, including:
    1. Falsification, distortion, or misrepresentation of information related to a student discipline matter.
    2. Disruption or interference with the orderly progress of a student discipline proceeding.
    3. Initiation of a student discipline proceeding in bad faith.
    4. Attempting to discourage another from participating in the student discipline matter.
    5. Attempting to influence the impartiality of any participant in a student discipline matter.
    6. Verbal or physical harassment or intimidation of any participant in a student discipline matter.
    7. Failure to comply with the sanction(s) imposed under a student discipline proceeding.
  20. Encouraging, permitting, or assisting another to do any act that could subject him or her to discipline.
3. Procedures for Enforcing this Code  
The Chancellor shall adopt procedures to ensure students are afforded appropriate notice and an opportunity to be heard before the university imposes any sanction for a violation of the Student Conduct Code. [Note: At the time of publication, such procedures are set forth in California State University Executive Order 1098 (Revised June 23, 2015), available at <http://calstate.edu/eo/EO-1098-rev-6-23-15.html>.]
4. Application of this Code  
Sanctions for the conduct listed above can be imposed on applicants, enrolled students, students between academic terms, graduates awaiting degrees, and students who withdraw from school while a disciplinary matter is pending. Conduct that threatens the safety or security of the campus community, or substantially disrupts the functions or operation of the University is within the jurisdiction of this Article regardless of whether it occurs on or off campus. Nothing in this Code may conflict with Education Code section 66301 that prohibits disciplinary action against students based on behavior protected by the First Amendment

## **Title 5, California Code of Regulations, §41302. Disposition of Fees: Campus Emergency; Interim Suspension.**

The president of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which he or she is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

During periods of campus emergency, as determined by the president of the individual campus, the president may, after consultation with the chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The president may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the president or designated representative, enter

any campus of the California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

## Student Conduct Procedures

SJSU is committed to ensuring a safe learning and living environment for students, faculty, and staff. The privilege of attending San José State University is accompanied by certain responsibilities to ensure this environment. The California Code of Regulations, Title 5, Section 41301 establishes behavioral expectations of our students to promote safety and good citizenship. The California State University issued Executive Order 1098, entitled, Student Conduct Procedures, on June 23, 2015 to outline the procedures for administering the Student Conduct Code as well as ensuring students' rights to due process. The process is intended to be educational in nature, and appropriate sanctions may be administered.

## Policy and Implementation

At San José State University the responsibility for administering the Student Conduct Code resides with the Director of Student Conduct and Ethical Development in the Division of Student Affairs. This position is responsible for carrying out the duties in Executive Order No. 1098 assigned to the Student Conduct Administrator, including the determination of whether to initiate disciplinary action.

Students may be accompanied by an advisor of their choice. The advisor's role is limited to observing and providing consultation, support, and advice to the Student. The advisor may not speak on the Student's behalf.

San Jose State University excludes attorneys from student discipline proceedings except in limited circumstances where there are (a) pending criminal (felony) charges or (b) the recommended sanction is Expulsion. (Refer to Executive Order 1098, Article II, Section C for additional details about attorneys.)

The duties of the president in Executive Order No. 1098 are delegated to the Vice President for Student Affairs, including the appointment of hearing officers (Article II, section B), review of final reports of hearing officers and issuing notice of the final decision (Article III, Sections E and F), and the imposition of interim suspension (Article VI, Sections H and I).

## Student Discipline and Conduct

Questions regarding student disciplinary matters should be directed to Student Conduct & Ethical Development, Administration 218, 408-924-5985 or [www.sjsu.edu/studentconduct/](http://www.sjsu.edu/studentconduct/)

## Student Disciplinary Process

The student conduct process is governed by Executive Order 1098. Copies of this document are available in Student Conduct & Ethical Development, Administration 218, 408-924-5985 or [www.sjsu.edu/studentconduct](http://www.sjsu.edu/studentconduct/).

## California Code of Regulations

Inappropriate conduct by students or by applicants for admission is subject to discipline as provided in Sections 41301 through 41304 of Title 5, California Code of Regulations.

## **Disposition of Fees**

### **Disposition of Fees - Campus Emergency - 41302 - Interim Suspension**

The president of the campus may place on probation, suspend, or expel a student for one or more of the causes enumerated in Section 41301. No fees or tuition paid by or for such a student for the semester, quarter, or summer session in which he or she is suspended or expelled shall be refunded. If the student is readmitted before the close of the semester, quarter, or summer session in which they is suspended, no additional tuition or fees shall be required of the student on account of the suspension.

During periods of campus emergency, as determined by the president of the individual campus, the President may, after consultation with the chancellor, place into immediate effect any emergency regulations, procedures, and other measures deemed necessary or appropriate to meet the emergency, safeguard persons and property, and maintain educational activities.

The president may immediately impose an interim suspension in all cases in which there is reasonable cause to believe that such an immediate suspension is required in order to protect lives or property and to insure the maintenance of order. A student so placed on interim suspension shall be given prompt notice of charges and the opportunity for a hearing within 10 days of the imposition of interim suspension. During the period of interim suspension, the student shall not, without prior written permission of the President or designated representative, enter any campus of the California State University other than to attend the hearing. Violation of any condition of interim suspension shall be grounds for expulsion.

## **Conduct by Applicants for Admission - 41303**

Notwithstanding any provision in this Chapter 1 to the contrary, admission or readmission may be qualified or denied to any person who, while not enrolled as a student, commits acts which, were he enrolled as a student, would be the basis for disciplinary proceedings pursuant to Sections 41301 or 41302. Admission or readmission may be qualified or denied to any person who, while a student, commits acts which are subject to disciplinary action pursuant to Section 41301 or Section 41302. Qualified admission or denial of admission in such cases shall be determined under procedures adopted pursuant to Section 41304.

## **Student Disciplinary Procedures for the California State University - 41304**

The chancellor shall prescribe, and may from time to time revise, a code of student disciplinary procedures for the California State University. Subject to other applicable law, this code shall provide for determinations of fact and sanctions to be applied for conduct which is a ground of discipline under Sections 41301 or 41302, and for qualified admission or denial of admission under Section 41303; the authority of the campus president in such matters; conduct-related determinations on financial aid eligibility and termination; alternative kinds of proceedings, including proceedings conducted by a hearing officer; time limitations; notice; conduct of hearings, including provisions governing evidence, a record and review; and such other related matters as may be appropriate. The chancellor shall report to the board actions taken under this section.

## **Drug-Free Schools Statement**

In accordance with the Drug-Free Workplace and the Drug-Free Schools and Communities Act (P.L. 102-226) and the Presidential Directive (90-92), SJSU recognizes that the abuse of alcohol and other drugs is a threat to the health



and welfare of the campus community and is not compatible with an environment where education takes place. Therefore, the following principles will serve as standards of conduct.

The unlawful manufacture, possession, distribution or use of a controlled substance is prohibited on campus. Violation of this standard may result in dismissal under the applicable regulations of the Title V and will be subject to civil and criminal penalties.

No individual below the age of 21 and no intoxicated individual may use, purchase or possess alcoholic beverages or they may be subject to the penalties imposed by local, state and federal laws.

SJSU recognizes that its policy on illicit drugs and alcohol meets the legal requirements of public laws 101-226, 100-440, 100-690 and the California Penal Code. For more explicit information on the policy and sanctions, contact the Office of the Vice President for Student Affairs or the Student Health Center.

## SJSU's Commitment to Student Health and Safety

SJSU is sincerely concerned for the welfare of all members of its community. The university recognizes that college and university campuses may be particularly vulnerable to the abuse of alcohol and other drugs. Concern for the potential impairment of education and learning and the safety and good health of all members of the campus community, as well as the effective conduct of campus affairs, has led SJSU to issue this information.

This information was prepared to inform members of the campus community of the problems associated with alcohol and illicit drug abuse; to indicate sources of assistance for such problems; to emphasize standards of conduct desired of students, faculty and employees; and to note sanctions associated with infractions of these standards and other illegal acts related to abuse.

All colleges and universities that receive federal funds in any form are required to comply with Public Law 101-226. Partial compliance with this new law requires annual distribution of information to students and employees. This law, in addition to the Drug Free Workplace Act (Public Law 100-690) which requires applicants for federally funded grants and contracts (including certain forms of student financial aid) to certify that they will take affirmative steps to prohibit the unlawful manufacture, distribution, possession and use of controlled substances in the workplace, establishes the legal requirements for SJSU.

**A more complete compendium on Federal, State and Local laws is available at the following locations:**

- Vice President for Student Affairs, ADM 242
- Human Resources, UPD
- Wellness and Health Promotion Office, Student Wellness Center 101

## Safety Report

The Annual Security and Fire Safety Report is published each year in compliance with the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act. The report contains important safety information, SJSU policies, and crime statistics for the previous 3 years.

University Police  
[www.sjsu.edu/police](http://www.sjsu.edu/police)  
408-924-2172

## Sexual Harassment

San José State University is committed to maintaining a learning and working environment free from sexual harassment of its students, employees, and those who apply for employee or student status. Sexual harassment is conduct subject to disciplinary action.

SJSU policy defines sexual harassment to include "behaviors such as sexual advances, request for sexual favors, and other verbal or physical conduct of a sexual nature directed towards an employee, student, or applicant when one or more of the following circumstances are present:

- Submission to or toleration of the conduct is an explicit or implicit term or condition of appointment, employment, admission or academic evaluation
- Submission to or rejection of such conduct is used as a basis for a personnel decision or an academic evaluation affecting an individual
- The conduct has the purpose of interfering with an employee's work performance or creating an intimidating, hostile, offensive or otherwise adverse working environment
- The conduct had the purpose or effect of interfering with a student's academic performance, creating an intimidating, hostile, offensive or otherwise adverse learning environment, or adversely affecting any student.

All complaints dealing with sexual harassment should be directed to the Office for Equal Opportunity, which is located in UPD 303, 408-924-1115.

## Colleges, Departments, Majors & Programs, and Course Descriptions

# Lucas College and Graduate School of Business

**Office:** Business Tower 950

**Telephone:** (408) 924-3400

**Emails:** College Directory

**Website:** [www.sjsu.edu/cob](http://www.sjsu.edu/cob)

## Overview

Since 1928, the College of Business has served the business education needs of our community. We provide San José and Silicon Valley with talent, thought leadership and service, ensuring our region's growth in the global marketplace. An institution of opportunity, our accessible, high-value education empowers and transforms the lives of people of all ages and backgrounds. Both our challenging undergraduate curriculum and our innovative graduate program in the Donald and Sally Lucas Graduate School of Business equip graduates with the tools, work ethic and skills to succeed in the ever-changing global economy. The college is accredited by the Western Association of Schools and Colleges, the California State Board of Education, and the prestigious AACSB International ([www.aacsb.edu](http://www.aacsb.edu)). Fewer than five percent of business programs worldwide have earned the AACSB's certification of excellence.

The Donald and Sally Lucas College and Graduate School of Business is the institution of opportunity, providing innovative business education and research for the Silicon Valley region and beyond since 1928. The College offers an accessible, high value education that empowers people of all ages and backgrounds to transform their lives. Faculty and staff are strongly committed to the College's mission; maintain a collegial, inclusive teaching and learning environment; and are dedicated to continuous improvement in all areas of academic achievement, scholarship, teaching and service.

The college is an active member of the San José and Silicon Valley community and provides a talent pool, thought leadership and service that supports the region's growth in the global marketplace. The college is one of the 755 institutions worldwide that are accredited by the prestigious AACSB International, the Association to Advance Collegiate Schools of Business. In addition, the college is accredited by the Western Association of Schools and Colleges and the California State Board of Education.

The college is dedicated to equipping graduates with the tools, work ethic and skills to succeed in the ever-changing global economy. This is accomplished through a challenging undergraduate curriculum and an innovative, high quality graduate education in the Donald and Sally Lucas Graduate School of Business.

## The Gary J. Sbona Honors Practicum

The Gary J. Sbona Honors Practicum provides the best students in the College of Business with the opportunity to apply what they have learned in the classroom to real business problems. Students are selected based on a combination of high GPA, prerequisites, and excellent communication skills. Students are typically placed in groups of three to work on projects at Silicon Valley businesses for college course credit. The program also includes

international study trips, executive level guest speakers, and networking events. Through seminar sessions students are also exposed to current issues, ideas, and practices in their own disciplines and other fields of business. Students who complete two semesters in the program, have a 3.5 GPA or above and write a scholarly paper qualify to graduate with honors from the College of Business.

## Undergraduate Business Education

The college provides a rich undergraduate education through five departments and schools - Accounting and Finance, Global Innovation and Leadership, Information Systems and Technology, Management, and Marketing and Business Analytics. Infused throughout the undergraduate program are opportunities to develop competencies in a number of key areas -- communication, teamwork, global perspectives, critical thinking, ethics, entrepreneurship, community service, and innovation. The rigorous and challenging curriculum prepares graduates to be future leaders that succeed in the global economy.

The college is building upon its existing expertise in entrepreneurship, management, global finance, accounting, and leadership and organizational change. In addition, the college showcases the best and brightest students through the Gary J. Sbona Honors Program and the Thompson Global Internship Program.

## Jack Holland Student Success Center (Formerly BSAC)

**Email:** jackholland-center@sjsu.edu

**Website:** [www.sjsu.edu/lcobssc](http://www.sjsu.edu/lcobssc)

The Jack Holland Student Success Center, located on the garden level of the Boccardo Business Center, provides advice to students about undergraduate business courses and programs. Prospective students are encouraged to talk with advisors about requirements for business major and general education courses. Prospective graduate students are encouraged to meet a graduate advisor in the Graduate Program Office in the Business Tower.

## Business Tutoring Center

The Tutoring Center gives individual and group assistance to business students seeking subject matter tutoring. It is located on the ground level of the Boccardo Business Center.

## Donald and Sally Lucas Graduate School of Business

The Donald and Sally Lucas Graduate School of Business offers a high-value education with a global focus, innovative programs, and deep ties to Silicon Valley corporations and leaders. Our distinguished faculty provide a relevant business education focusing on excellence in teaching and applied research and serving the needs of diverse students from the Silicon Valley and beyond.

We offer an on-campus Early Career MBA program with three tracks: accelerated (12 months), full-time (21-24 months), and part-time (33-36 months). Our off-campus MBA for Professionals is a flexible part-time program suitable for working professionals who set their own paces. We also offer Master of Science in Accountancy, Master of Science in Taxation, Master of Science in Transportation Management programs and a dual degree MBA/Master of

Science in Software Engineering or MBA/Master of Science in Engineering with a specialization in Systems Engineering.

## Minor

### Business Minor

A minor consists of a minimum of 15 units and may be designed to fit the needs of a student majoring in any non-business department. The minor must include at least BUS1 20N - Survey of Accounting, and BUS3 160 - Fundamentals of Management and Organizational Behavior, and nine additional units, three of which must be upper division courses. Six units must be completed in residence. Some majors have specific minor requirements.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (15 units)

##### Core Courses (15 units)

- BUS1 20N - Survey of Accounting *3 unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior *3 unit(s)*
- 2 Lower Division Courses *6 unit(s)*
- 1 Upper Division Course *3 unit(s)*

#### Total Units Required (15 units)

## Department of Accounting and Finance

**Office:** Business Tower 850

**Telephone:** 408-924-3460

**Email:** [cob-acctandfinance@sjsu.edu](mailto:cob-acctandfinance@sjsu.edu)

**Website:** [www.sjsu.edu/acctfin](http://www.sjsu.edu/acctfin)

#### Professors

Billy J. Campsey  
Elizabeth Grace, Chair  
Daoping (Steven) He  
Stoyu Ivanov  
Frank Jones  
Annette Nellen  
Marco Pagani, Associate Dean, Graduate Programs

#### Associate Professors

Maria Bullen  
 Joel Busch  
 Mary Calegari  
 Jang-Hyung Cho  
 Esperanza Huerta  
 Yao Tian  
 Jian Zhang

### **Assistant Professors**

Benjamin Anderson  
 Caroline Chen  
 Matthew Faulkner  
 Artem Mescheryakov  
 Colin Onita  
 Tijana Rajkovich  
 Salman Tahsin  
 Fangjun (Julie) Xiao

## **Overview**

The Accounting and Finance department provides students with skills essential to manage and develop the frameworks for measurement, analysis, interpretation and communication of business and economic data. Extensive career prospects, breadths of concentration choices and numerous experiential and networking opportunities have made admission to this school and its concentrations highly competitive.

## **Undergraduate**

### **Business Administration, Accounting Concentration, BS**

Accounting, offered by the Department of Accounting and Finance, is a recognized profession concerned with the measurement, analysis, interpretation and communication of economic data. Students are prepared for careers as certified public accountants and managerial accountants for both the private and public sectors of the economy. The curriculum is designed to develop a basic understanding of the conceptual framework underlying the measurement and communication of economic data; a technical competence for effectively measuring, assimilating and communicating economic data; an awareness of the moral and ethical considerations involved; and incentives to grow and keep pace with ever-changing issues, conditions, forces and ideas.

- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	40
Concentration Requirements	24

University Electives	4
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for the Accounting Foundation Courses must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)

- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

### Complete One Course From:

- ENGL 100WB - Written Communication: Business 3 *unit(s)* (Z)
- COMM 100W - Writing Workshop: Writing for Influence 3 *unit(s)* (Z)
- LLD 100WB - Writing Workshop for Business Students 3 *unit(s)* (Z)

### Major Requirements (64 units)

### Core Courses (40 units)

### Lower Division Courses (10 units)



- BUS3 10 - Discovering Business 3 *unit(s)* (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 *unit(s)*
- BUS3 80 - Legal Environment of Business 3 *unit(s)*
- BUS2 90 - Business Statistics 3 *unit(s)* (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 *unit(s)*

### Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- BUS5 140 - Fundamentals of Operations Management 3 *unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*
- BUS1 170 - Fundamentals of Finance 3 *unit(s)*
- BUS2 190 - Quantitative Business Analysis 3 *unit(s)*

### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 *unit(s)*
- BUS4 188 - Business Systems and Policy 3 *unit(s)*
- BUS3 189 - Strategic Management 3 *unit(s)*
- PHIL 186 - Professional and Business Ethics 3 *unit(s)* (S)
- One non-business global perspectives course in Area V 3 *unit(s)*

### Concentration Requirements (24 units)

Additionally, to qualify for a baccalaureate degree in business administration with an Accounting concentration, all courses in the Accounting foundation classes must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

### Accounting Foundation Courses (15 units)

- BUS1 120A - Accounting Information Systems 3 *unit(s)*
- BUS1 121A - Intermediate Accounting I 3 *unit(s)*
- BUS1 121B - Intermediate Accounting II 3 *unit(s)*
- BUS1 122A - Management Accounting and Control Systems 3 *unit(s)*
- BUS1 123A - Tax Factors of Business and Investment Decision 3 *unit(s)*

### Required Electives (9 units)

Complete three course from:

- BUS1 120B - Advanced AIS and IS Risk Assessment 3 *unit(s)*
- BUS1 120G - Programming and Systems Development in AIS 3 *unit(s)*
- BUS1 123C - Taxation of Individuals and Pass Through Entities 3 *unit(s)*
- BUS1 124 - Forensic Accounting 3 *unit(s)*
- BUS1 125 - Special Financial Reporting Topics 3 *unit(s)*
- BUS1 126 - Advanced Accounting 3 *unit(s)*
- BUS1 127A - Honors Practicum in Corporate Financial Management 3 *unit(s)*

- BUS1 128 - Accounting for Nonprofit Organizations 3 *unit(s)*
- BUS1 129A - Financial Auditing 3 *unit(s)*
- BUS1 129B - Operational Auditing 3 *unit(s)*

## University Electives (4 units)

## Total Units Required (120 units)

# Business Administration, Accounting Information Systems Concentration, BS

This unique program prepares students to bridge the gap between two disciplines that are critical to business operations: Accounting and Management Information Systems. The program is taught exclusively within the Department of Accounting and Finance which strengthens the curriculum structure of the program focusing on important, relevant accounting, internal controls, and information technology issues. AIS students take courses in database design, networking and data communications, systems analysis and design, and IT audit, all with an accounting emphasis.

Students who complete this concentration will be entering into one of the fastest growing, most dynamic areas in accounting. Graduates are attractive to public accounting firms and corporations with jobs such as liaisons between the accounting/financial systems users and the information systems technical staff or to design and deploy information technology to improve the accounting systems of an organization. Careers might take paths in areas such as IT or internal audit, forensic accounting, risk management, or litigation services. This qualifies students to sit for the CISA (Computer Information Systems Auditor) examination.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	40
Concentration Requirements	27
University Electives	1
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Accounting Information Systems must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 *unit(s)* (Z)
- ENGL 100WB - Written Communication: Business 3 *unit(s)* (Z)
- LLD 100WB - Writing Workshop for Business Students 3 *unit(s)* (Z)

## Major Requirements (67 units)

### Core Courses (40 units)

### Lower Division Courses (10 units)

- BUS3 10 - Discovering Business 3 *unit(s)* (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 *unit(s)*
- BUS3 80 - Legal Environment of Business 3 *unit(s)*
- BUS2 90 - Business Statistics 3 *unit(s)* (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 *unit(s)*

### Business Fundamentals (15 units)

- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- BUS5 140 - Fundamentals of Operations Management 3 *unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*

- BUS1 170 - Fundamentals of Finance 3 *unit(s)*
- BUS2 190 - Quantitative Business Analysis 3 *unit(s)*

### Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 *unit(s)*
- BUS4 188 - Business Systems and Policy 3 *unit(s)*
- BUS3 189 - Strategic Management 3 *unit(s)*
- PHIL 186 - Professional and Business Ethics 3 *unit(s)* (S)
- One non-business global perspectives course in Area V 3 *unit(s)*

### Concentration Requirements (27 units)

Additionally, to qualify for a baccalaureate degree in business administration with an accounting information systems concentration, all courses in the concentration must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

### Accounting Information Systems Foundation Courses (24 units)

- BUS1 120A - Accounting Information Systems 3 *unit(s)*
- BUS1 120B - Advanced AIS and IS Risk Assessment 3 *unit(s)*
- BUS1 120C - Network Environment and Accounting Controls 3 *unit(s)*
- BUS1 120D - Accounting Topics in IT Audit 3 *unit(s)*
- BUS1 120G - Programming and Systems Development in AIS 3 *unit(s)*
- BUS1 121A - Intermediate Accounting I 3 *unit(s)*
- BUS1 121B - Intermediate Accounting II 3 *unit(s)*
- BUS1 122A - Management Accounting and Control Systems 3 *unit(s)*

### Required Electives (3 units)

Complete one course from:

- BUS1 123A - Tax Factors of Business and Investment Decision 3 *unit(s)*
- BUS1 124 - Forensic Accounting 3 *unit(s)*
- BUS1 127A - Honors Practicum in Corporate Financial Management 3 *unit(s)*
- BUS1 129A - Financial Auditing 3 *unit(s)*
- BUS1 129B - Operational Auditing 3 *unit(s)*

### University Electives (1 unit)

### Total Units Required (120 units)

## **Business Administration, Corporate Accounting and Finance Concentration, BS**

This unique concentration is designed for students who are attracted to career opportunities in corporate financial management. The concentration integrates two highly valued disciplines, Accounting and Finance.

Offered by the Department of Accounting and Finance, the curriculum design develops a basic understanding of the conceptual framework underlying the measurement and communication of accounting data; a technical competence for effectively measuring, and assimilating and communicating economic data, ultimately to make sound financial decisions. Awareness of moral and ethical considerations in business is emphasized along with identifying incentives to grow and keep paced with ever-changing issues, conditions, forces, and ideas. The curriculum significantly enhances the attractiveness of its graduates to corporate finance groups as entry-level hires, and for the long-term, positions them to compete for roles in management. Required courses include four accounting and three finance courses. CFM graduates are able to move seamlessly between accounting and finance careers increasing their marketability in a field that has limitless opportunities.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	40
Concentration Requirements	27
University Electives	1
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Corporate Accounting Finance must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (67 units)

### Core Courses (40 units)

### Lower Division Courses (10 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Business Fundamentals (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Business Integration and Perspective Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (27 units)



Additionally, to qualify for a baccalaureate degree in business administration with a Corporate Finance Management concentration, all courses in the concentration must be completed with a grade of "C" or better. A cumulative 2.0 GPA is required in all business classes.

### Required Accounting Courses (12 units)

- BUS1 120A - Accounting Information Systems 3 *unit(s)*
- BUS1 121A - Intermediate Accounting I 3 *unit(s)*
- BUS1 121B - Intermediate Accounting II 3 *unit(s)*
- BUS1 122A - Management Accounting and Control Systems 3 *unit(s)*

### Required Finance Courses (9 units)

- BUS1 171A - Financial Institutions and Markets 3 *unit(s)*
- BUS1 173A - Financial Management: Theory and Policy 3 *unit(s)*
- BUS1 173B - Problems in Financial Management 3 *unit(s)*

### Concentration Electives (6 units)

Complete two courses from:

- BUS1 120B - Advanced AIS and IS Risk Assessment 3 *unit(s)*
- BUS1 123A - Tax Factors of Business and Investment Decision 3 *unit(s)*
- BUS1 124 - Forensic Accounting 3 *unit(s)*
- BUS1 125 - Special Financial Reporting Topics 3 *unit(s)*
- BUS1 126 - Advanced Accounting 3 *unit(s)*
- BUS1 127A - Honors Practicum in Corporate Financial Management 3 *unit(s)*
- BUS1 127B - Advanced Honors Practicum 3 *unit(s)*
- BUS1 128 - Accounting for Nonprofit Organizations 3 *unit(s)*
- BUS1 129B - Operational Auditing 3 *unit(s)*
- BUS1 171B - Commercial Banking 3 *unit(s)*
- BUS1 172A - Investment Analysis 3 *unit(s)*
- BUS1 172B - Portfolio Management 3 *unit(s)*
- BUS1 172C - Futures and Options 3 *unit(s)*
- BUS1 173C - Entrepreneurial Finance 3 *unit(s)*
- BUS1 175 - Real Estate Finance 3 *unit(s)*
- BUS1 177 - International Business Finance 3 *unit(s)*
- BUS1 179B - Selected Topics in Business Finance 3 *unit(s)*

### University Electives (1 unit)

### Total Units Required (120 units)

## Business Administration, Finance Concentration, BS

Three areas of financial decision-making are emphasized: corporate finance, investments and financial institutions. Corporate finance courses are designed to prepare the student for financial analysis and planning as essential

functions of a business enterprise. The investments area emphasizes the decision-making processes required to analyze the valuation of securities such as stocks or bonds and the principles of managing an investment portfolio. Financial institutions are studied both from an external viewpoint that emphasizes the function of money and capital markets, and from the internal perspective of a manager of a financial institution such as a commercial bank, savings and loan, mutual fund or life insurance company. Offered by the Department of Accounting and Finance, the objective is to prepare students for careers such as financial officer of a corporation or a financial institution responsible for investment and financing decisions.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	18
University Electives	7
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Finance must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ECON 1A, ECON 1B, ENGL 2, MATH 71, BUS1 20, BUS1 21, BUS2 90, BUS1 170.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

All of the following courses must be completed with a grade of "C" or better prior to taking any upper division major coursework.

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (61 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Upper Division Business Fundamentals Courses (15 units)

- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (18 units)

*Must achieve a grade of "C" or better in the following required courses*

### Required Courses (9 units)

- BUS1 171A - Financial Institutions and Markets 3 *unit(s)*
- BUS1 172A - Investment Analysis 3 *unit(s)*
- BUS1 173A - Financial Management: Theory and Policy 3 *unit(s)*

### Concentration Electives (9 units)

Complete three courses from:

*Choose BUS1 127A or BUS1 127B do not take both*

- BUS1 127A - Honors Practicum in Corporate Financial Management 3 *unit(s)*
- BUS1 127B - Advanced Honors Practicum 3 *unit(s)*
- BUS1 171B - Commercial Banking 3 *unit(s)*
- BUS1 172B - Portfolio Management 3 *unit(s)*
- BUS1 172C - Futures and Options 3 *unit(s)*
- BUS1 172D - Student Managed Investment Fund 3 *unit(s)*
- BUS1 173B - Problems in Financial Management 3 *unit(s)*
- BUS1 173C - Entrepreneurial Finance 3 *unit(s)*
- BUS1 175 - Real Estate Finance 3 *unit(s)*
- BUS1 177 - International Business Finance 3 *unit(s)*
- BUS1 179B - Selected Topics in Business Finance 3 *unit(s)*

## University Electives (7 units)

## Total Units Required (120 units)

*BUS1 20 - Financial Accounting*

3 *unit(s)*

Accounting postulates and principles; application of accounting theory to accumulate and summarize financial data; critical analysis and interpretation of financial statements.

**Prerequisite(s):** MATH 71 or MATH 71X

**Grading:** Graded

*BUS1 20N - Survey of Accounting*

3 *unit(s)*

Introduction to accounting theory and techniques for business minors and non-business majors. Principles are applied to accumulating and summarizing financial data; critical analysis and interpretation of financial statements.

**Prerequisite(s):** Sophomore status recommended, non-business majors only.

**Grading:** Graded

*BUS1 21 - Managerial Accounting*

3 unit(s)

Uses of accounting data for managerial decision-making. Topics include: cost accumulation for product costing; cost structure for control and motivation; cost-volume-profit relationships; profit planning; standard costing; flexible budgets; and relevant costs for non-routine decisions.

**Prerequisite(s):** BUS1 20 or BUS1 20N.

**Grading:** Graded

*BUS1 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*BUS1 120A - Accounting Information Systems*

3 unit(s)

Documentation, flow and processing of accounting information in business organizations; related principles of internal control; system design principles. Computerized and non-computerized procedures are used for processing.

**Prerequisite(s):** BUS 20 with a "C" or better. Declared Major in Accounting, Accounting Information Systems or Corporate Accounting and Finance. Upper division standing.

**Grading:** Graded

*BUS1 120B - Advanced AIS and IS Risk Assessment*

3 unit(s)

Hands-on project-oriented computer lab to develop working knowledge and skills in using Microsoft Excel and Access as application development tools. Students design a prototype accounting system and generalized audit module prototype assessing integrity of previously designed databases.

**Prerequisite(s):** BUS 120A and COMM 100W or ENGL 100WB or LLD 100WB with a minimum grade of "C" or better in both. Upper division standing.

**Grading:** Graded

*BUS1 120C - Network Environment and Accounting Controls*

3 unit(s)

Introduction to current network arrangements in small, medium and large corporations, including hardware/software components used to control the integrity, and access of networks. Internet interfaces including TCP/IP basics and network configurations. A practical NT domain and its administration will be included.

**Prerequisite(s):** BUS1 120A with a minimum grade of 'C'. Upper division standing.

**Grading:** Graded

*BUS1 120D - Accounting Topics in IT Audit*

3 unit(s)

Students will be exposed to real life audit environment cases. Students will apply the EDP auditing techniques of integrated audit risk management, auditing of platforms, applications, and network as appropriate. Discussion of network security, including telecommunications, firewall, encryption and other current IT Audit issues will be included as part of IT discussion.

**Prerequisite(s):** BUS1 120B and BUS1 120C with a grade of 'C' in each. Upper division standing.

**Grading:** Graded

*BUS1 120E - Platforms Security & E-Commerce Controls*

3 unit(s)

Students will be exposed to overall functional capabilities of the security of UNIX, NET, and Novell platforms, and how to audit the security of these platforms. Students will also be exposed to the E-Commerce IT environments, and setting up of an E-Commerce website with security considerations.

**Prerequisite(s):** BUS1 120B and BUS1 120C with a grade of 'C' in each.

**Grading:** Graded

*BUS1 120G - Programming and Systems Development in AIS*

3 unit(s)

This course covers the process, technical elements and current techniques used in accounting systems development. Programming topics include business reporting languages. Systems development topics include requirements analysis, functional specification, system design, implementation, testing, and maintenance.

**Prerequisite(s):** BUS1 20 with a minimum grade of "C".

**Grading:** Graded

*BUS1 121A - Intermediate Accounting I*

3 unit(s)

Principles, control and theory of accounting for assets; correction of prior year's earnings; measurement and determination of income. Projects involving spreadsheet software required.

**Prerequisite(s):** BUS 20 with a minimum grade of 'C' and Upper division standing. Student must be a declared Accounting, Accounting Information Systems, Finance, or Corporate Financial Management major to enroll.

**Grading:** Graded

*BUS1 121B - Intermediate Accounting II*

3 unit(s)

Principles, controls, and theory of accounting for liabilities and equities; preparation, utilization, and analysis of cash flow and fund statements; financial ratios and statistical analysis of financial statements accounting data. Projects involving spreadsheet software required.

**Prerequisite(s):** BUS1 121A (with minimum grade of "C"). Upper division standing.

**Grading:** Graded

*BUS1 122A - Management Accounting and Control Systems*

3 unit(s)

Examination of the nature, objectives and procedures of cost management as applied to product and service costing, decision-making and cost planning and control systems.

**Prerequisite(s):** BUS 20 with a minimum grade of "C" and upper division standing. Declared Major in Accounting, Accounting information systems or Corporate Accounting and finance.

**Grading:** Graded

*BUS1 123A - Tax Factors of Business and Investment Decision*

3 unit(s)

Introductory course in taxation with emphasis on certain themes that pervade the federal income tax system and its impact on business. Property transactions, deferral techniques, accounting periods, accounting methods and research techniques with emphasis on corporations.

**Prerequisite(s):** BUS 20 with a minimum grade of "C", Upper division standing and declared Accounting, Accounting Information Systems or Corporate Accounting Finance Major.

**Grading:** Graded

*BUS1 123C - Taxation of Individuals and Pass Through Entities*

3 unit(s)

Emphasis on the unique factors involved in taxation of individuals and pass-through entities (partnerships, S corporations, estates and trusts). Taxation of the transfer of wealth through gifts and inheritance.

**Prerequisite(s):** BUS 123A with a grade of "C" or better. Upper division standing. Business Minor or Accounting or Corporate Accounting Finance major

**Grading:** Graded

*BUS1 124 - Forensic Accounting*

3 unit(s)

This course will examine the various frauds that are perpetrated on companies and discuss ways the accountant can uncover the frauds. The criminal justice system will be reviewed and the various litigation-support functions provided to attorneys by accountants will be discussed.

**Prerequisite(s):** BUS1 20; COMM 100W or ENGL 100W or LLD 100W; BUS1 121A and BUS1 121B with a minimum grade of "C" in each. Accounting and Corporate Accounting Finance Majors only.

**Grading:** Graded

*BUS1 125 - Special Financial Reporting Topics*

3 unit(s)

Analysis of specialized and emerging accounting topics (such as interim reporting, deferred taxes, post-employment benefits and new FAS pronouncements) with emphasis on research, application and analytical skills.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB; BUS1 121A and BUS1 121B (with minimum grade of "C" in each). Accounting and Corporate Accounting Finance Majors or Business Minor only.

**Grading:** Graded

*BUS1 125A - Advanced Writing for Accounting*



3 unit(s)

Students learn to communicate accounting and other specialized financial information to a variety of audiences including employers, clients and the investing public in a manner that promotes clarity, accuracy and professionalism.

**Prerequisite(s):** BUS1 121A

**Grading:** Graded

*BUS1 125B - Accounting Ethics*

3 unit(s)

Students study accounting ethics, professional codes of conduct and the application of accounting ethics in various fields of accounting including auditing, managerial accounting and taxation.

**Prerequisite(s):** BUS1 121A, BUS1 122A

**Grading:** Graded

*BUS1 125C - Professional Development and Communications*

3 unit(s)

Interview and verbal presentation skills, including computer applications, in professional, business and social situations are developed. Professional Skills and personal awareness are emphasized.

**Prerequisite(s):** BUS1 20

**Grading:** Graded

*BUS1 125D - Internship in Accounting*

3 unit(s)

Course integrates accounting education with work experience and exposes students to career opportunities and accounting in the business environment. It provides individualized educational experience through structured employment and on-the-job learning.

**Prerequisite(s):** BUS1 121A and BUS1 125A

**Grading:** Graded

*BUS1 126 - Advanced Accounting*

3 unit(s)

Accounting for multi-unit operations: consolidated reporting issues, transfer pricing issues, globalization issues (foreign tax structures, organizational forms, and international accounting) translating foreign currency transactions and operations, hedging foreign currency exposures, goodwill, and business combinations. Extensive use of spreadsheets (Excel).

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB; BUS1 121A and BUS1 121B (with minimum grade of "C" in each). Accounting or Corporate Accounting Finance Majors or Business Minor only.

**Grading:** Graded

*BUS1 127A - Honors Practicum in Corporate Financial Management*

3 unit(s)

Corporate sponsored projects in accounting and finance. Students are assigned to a host company and are required to work with the host company and faculty advisor on a topic in financial management. A report will be presented.

Students are admitted based on an average 3.0 GPA in four prerequisite courses.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB; BUS1 121A, BUS1 121B, BUS1 122A and BUS1 170 with a minimum grade of "C" in each and instructor approval. Upper division standing.

**Grading:** Graded

*BUS1 127B - Advanced Honors Practicum*

*3 unit(s)*

Course involves advanced corporate sponsored projects in accounting and finance. Students are assigned to supervisory personnel at the host company under the advisement of the instructor. Course is repeatable for credit for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Declared major in Accounting, Finance, AIS or Corporate Financial Management and instructor consent.

**Grading:** Graded

*BUS1 128 - Accounting for Nonprofit Organizations*

*3 unit(s)*

Principles, objectives and methods of accounting for governmental and other nonprofit organizations.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB and BUS 121A (with minimum grade of "C" in both). Accounting or Corporate Accounting Finance Majors or Business Minor only.

**Grading:** Graded

*BUS1 129A - Financial Auditing*

*3 unit(s)*

Emphasis on process by which an accountant forms an opinion on financial statement fairness of presentation. Examines public accounting profession, application of relevant professional standards, auditing procedures, and professional ethics.

**Prerequisite(s):** BUS1 120A, BUS1 121A with grade of C or better.

**Grading:** Graded

*BUS1 129B - Operational Auditing*

*3 unit(s)*

Study of professional and technical aspects of internal and operational auditing with emphasis on concepts, ethical conduct and significance in preparation/implementation of the audit and its findings. Effectiveness and efficiency of audits in industry and not-for-profits will be covered.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB; BUS1 120A; BUS1 121A; BUS1 121B and BUS1 122A (with minimum grade of "C" in each).

**Grading:** Graded

*BUS1 170 - Fundamentals of Finance*

3 unit(s)

The finance function and its relationship to other decision-making areas in the firm; the study of theory and techniques in acquisition and allocation of financial resources from an internal management perspective.

**Prerequisite(s):** BUS1 21 or BUS1 122A; ECON 1A, ECON 1B and BUS2 90. Upper division standing.

**Grading:** Graded

*BUS1 171A - Financial Institutions and Markets*

3 unit(s)

Study of financial markets and institutions that operate in them. Examinations of money and capital markets, interest rates and financial institutions, both depository and non-depository. Emphasis on past, current and future industry and regulatory authorities.

**Prerequisite(s):** BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance majors only.

**Grading:** Graded

*BUS1 171B - Commercial Banking*

3 unit(s)

Analytical tools for the evaluation of the performance and risk of commercial banks. The measurement and management of interest rate, liquidity, credit and solvency risks. Historical and current banking regulations. Commercial credit analysis and loan policies.

**Prerequisite(s):** BUS1 171A with a minimum grade of "C".

**Grading:** Graded

*BUS1 172A - Investment Analysis*

3 unit(s)

Procedures and tools necessary to evaluate investment variables, determine value and analyze risk/return characteristics of equity, fixed income securities, and alternative individual investments. Emphasizes responsible decisions and provides background for portfolio analysis.

**Prerequisite(s):** BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance Majors only.

**Grading:** Graded

*BUS1 172B - Portfolio Management*

3 unit(s)

Basic procedures and analytical tools necessary to construct, analyze, evaluate and revise investment portfolios or groups of assets, including computerized portfolio models. Approach and content consistent with objectives of Chartered Financial Analyst (CFA) program.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB and BUS 172A with a minimum grade of "C" in both. Upper division standing.

**Grading:** Graded

*BUS1 172C - Futures and Options*

3 unit(s)

The use of derivatives for risk management by individuals, banks and corporations. The functioning of the futures and options markets for equities, fixed income and commodities. Option valuation models; Black-Scholes and beyond. Risk arbitrage. Applications in personal investment strategies.

**Prerequisite(s):** BUS1 170 and BUS1 172A with a minimum grade of "C" in each.

**Grading:** Graded

*BUS1 172D - Student Managed Investment Fund*

3 unit(s)

Manage donated funds using Wall Street techniques. Design and evaluate fund investment strategy. Analyze firms for portfolio inclusion. Communicate buy-hold-sell recommendation.

**Prerequisite(s):** BUS1 170

**Grading:** Graded

*BUS1 173A - Financial Management: Theory and Policy*

3 unit(s)

From the financial manager's perspective, considerations and alternatives for maximizing a firm's value. Tools for understanding what determines value and what managerial actions can alter value, by combining theory with practical knowledge of marketplace limitations.

**Prerequisite(s):** BUS 170 (with minimum grade of "C"). Upper division standing. Business Administration Finance or Corporate Accounting and Finance Majors only.

**Grading:** Graded

*BUS1 173B - Problems in Financial Management*

3 unit(s)

Advance study of business case materials, including assessment of financial condition; projection of capital requirements; and analysis of decisions pertaining to working capital, capital expenditures, financing, capital structure, dividends, mergers and reorganization.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB and BUS1 173A with a minimum grade of "C" in both. Upper division standing.

**Grading:** Graded

*BUS1 173C - Entrepreneurial Finance*

3 unit(s)

Basic principles of finance applied to new ventures and small businesses. Topics include incorporation, venture capital, business models, financial analysis, valuation, capital structure, cash flow forecasting, growth and exit strategies.

**Prerequisite(s):** BUS 170 with a minimum grade of 'C.' and Upper Division Standing

**Grading:** Graded

*BUS1 175 - Real Estate Finance*

3 unit(s)

Real estate financing from the viewpoint of borrower and lender, financing mathematics, legal aspects of lending, appropriate financial instruments, taxes and real estate, loan cost analysis, loan valuation, development and assumability. Mortgage markets/institutions considered together with alternative financing techniques for various types of properties.

**Prerequisite(s):** BUS1 170 (with minimum grade of "C"). Upper division standing.

**Grading:** Graded

*BUS1 177 - International Business Finance*

3 unit(s)

Focuses on the determination of exchange rates and the workings of international financial markets. Develops exchange rate parity relationships and techniques for hedging exchange rate risk. Strategies for managing working capital, long term debt, fixed asset selection and international financial reporting are also examined.

**Prerequisite(s):** BUS1 170 (with minimum grade of "C"). Upper division standing.

**Grading:** Graded

*BUS1 179B - Selected Topics in Business Finance*

3 unit(s)

Extensive investigation of selected topics with major emphasis on integration of finance theory and practice within a current business context.

**Prerequisite(s):** BUS1 173A (with minimum grade of "C"). Upper division standing.

**Grading:** Graded

*BUS1 180A - Indiv Study Acctg*

1-4 unit(s)

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*BUS1 180C - Indiv Study Finan*

1-4 unit(s)

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*BUS1 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*BUS1 196B - Corporate Finance II*

3 unit(s)

Introduction to selected topics of corporate finance: mergers and acquisitions, bankruptcy, initial public offerings, working capital management, payout policy, capital structure, multinational financial management. Application of finance theory to investment and financing decisions of a corporation.

**Prerequisite(s):** BUS1 173A

**Grading:** Graded

## Department of Marketing and Business Analytics

**Office:** Business Tower 750

**Telephone:** 408-924-3506

**Email:** Contact the Department Staff

**Website:** [www.sjsu.edu/mktba](http://www.sjsu.edu/mktba)

### Professors

Howard W. Combs

Marilyn Easter

Jeffrey A. Fadiman

Kenneth C. Gehrt

Therese Louie

Michael Merz, Chair

Sak Onkvisit

Mahesh Rajan

### Associate Professors

Jennifer Bechkoff

David Czerwinski

Miwa Merz

Robert Sibley

Shaonan Tian

Jing Zhang

### Assistant Professors

Michael Klein

Hyo Jin Lee

Mahboubeh Madadi

Gema Vinuales

## Overview

Students interested in a career in marketing or business analytics can choose from one of two concentrations in the Department of Marketing and Business Analytics. A concentration in Marketing prepares students to pursue a career in a number of different areas such as sales and promotion, marketing management and social media marketing, in just about any sector.

For students interested in quantitative approaches to business decision-making, the Department offers a concentration on Business Analytics. The Department also houses the Bay Area Retailer Leadership Center, through which students can interface with leaders in retail and allied industries.

## Undergraduate

# Business Administration, Business Analytics Concentration, BS

Business Analytics is a quantitative approach to business, driven by the intelligent use of data and mathematical models. Practitioners leverage methods from statistics and operations research to form insights and make decisions that improve business performance. Business analytics is crucial to a broad range of industries. Banks need to perform credit risk analysis and analyze streaming transactions in real time to quickly identify potential fraud. Utility companies need to analyze energy usage data to gain a better understanding of demand patterns. Retailers need to perform markdown optimizations, firm-wide liquidity management, and understand the social sentiment around their products and markets to develop more effective campaigns and promotions. Business Analytics, offered by the Department of Marketing and Business Analytics, helps such organizations uncover insights from big data, build models that relate actions to consequences, and perform optimization and simulation analyses that lead to quality decisions and better outcomes in shorter times. The job opportunities for graduates with data analytical skills have never been more numerous. The business analytics concentration is designed to cater to this need by equipping our undergraduates with the skills needed to crunch huge data sets into meaningful information to further facilitate smart business decision-making.

- Program Learning Outcomes

## Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	18
University Electives	7
<b>Total</b>	<b>120</b>

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Business Analytics must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)



## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (61 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Business Fundamentals (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Business Integration and Perspective Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)

- BUS4 188 - Business Systems and Policy 3 *unit(s)*
- BUS3 189 - Strategic Management 3 *unit(s)*
- PHIL 186 - Professional and Business Ethics 3 *unit(s)* (S)
- One non-business global perspectives course in Area V 3 *unit(s)*

## Concentration Requirements (18 units)

Additionally, to qualify for a baccalaureate degree in Business Administration with concentration in Business Analytics, all courses in the concentration must be completed with a grade of "C-" or better. A cumulative 2.0 GPA is required in all business classes.

- BUS2 194A - Statistical Analysis 3 *unit(s)*
- BUS2 194B - Business Analytics 3 *unit(s)*

## Complete Four Courses From:

- BUS2 132B - Business Logistics 3 *unit(s)*
- BUS2 137A - Soft Skills 3 *unit(s)*
- BUS2 138 - Marketing Research 3 *unit(s)*
- BUS2 191 - Decision Making Under Uncertainty 3 *unit(s)*
- BUS2 193 - Data Mining 3 *unit(s)*
- BUS2 195A - Spreadsheet Modeling 3 *unit(s)*
- BUS2 195B - Data Visualization 3 *unit(s)*
- BUS2 195C - Simulation Modeling and Analysis 3 *unit(s)*
- BUS2 195D - Analytic Strategy 3 *unit(s)*
- BUS4 116 - Advanced Database Management Systems 3 *unit(s)*
- BUS4 118S - Special Topics in MIS 3 *unit(s)*

## University Electives (7 units)

## Total Units Required (120 units)

# Business Administration, General Business Concentration, BS

The General Business concentration, offered by the Department of Marketing and Business Analytics, offers students a broad spectrum of courses to prepare them for careers in small, medium-sized or family businesses and for jobs with companies that train new employees in a specific job largely unrelated to a functional area such as managing a large retail store or servicing technology company's customers.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 35

Major Preparation 17

Major Core Requirements	43
Concentration Requirements	18
University Electives	7
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for General Business must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (17 units)**

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

**Complete One Course From:**

- ENGL 100WB - Written Communication: Business 3 *unit(s)* (Z)
- COMM 100W - Writing Workshop: Writing for Influence 3 *unit(s)* (Z)

- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (61 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (18 units)

### Required Courses (12 units)

Courses selected must include at least one each from Marketing and Organization and Management. There could be as many as 12 units from any one department and as many as 6 units of advisor approved transfer credit. All these courses require grades of "C-" or better.

### Additional Courses (6 units)

Any upper division business courses. Please see an advisor for a current list of acceptable courses. All these courses require grades of "C-" or better.

## University Electives (7 units)

## Total Units Required (120 units)

### **Business Administration, Marketing Concentration, BS**

Business graduates with a Marketing concentration are prepared to pursue careers in small business and retail store management; in marketing, product or advertising management; also direct marketing, customer service and sales. The Marketing program, offered by the Department of Marketing and Business Analytics, focuses on the business function concerned with market definition and objectives, product or service development, customer segmentation and product positioning, sales management, advertising and promotion, pricing and distribution.

- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	21
University Electives	4
<b>Total</b>	<b>120</b>

#### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### **Major-Specific Graduation Requirements**

All courses in the Concentration Requirements for Marketing must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90, BUS2 130.

#### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent.)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (64 units)

### Core Courses (43 units)

#### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

#### Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

#### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS3 189 - Strategic Management 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS5 187 - Global Dimensions of Business 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (21 units)



Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with a marketing concentration, all marketing courses must be completed with a grade of "C-" or better. Marketing courses are those numbered in the BUS2 130 - BUS2 139 sequence.

### Required Courses (12 units)

- BUS2 134A - Consumer Behavior 3 *unit(s)*
- BUS2 134B - Integrated Marketing Communications 3 *unit(s)*
- BUS2 138 - Marketing Research 3 *unit(s)*
- BUS2 139 - Marketing Management 3 *unit(s)*

### Additional Courses (9 units)

Complete three courses from:

- BUS2 131D - Marketing in New Ventures 3 *unit(s)*
- BUS2 131B - Retail Marketing Management 3 *unit(s)*
- BUS2 131A - Business to Business Marketing 3 *unit(s)*
- BUS2 132B - Business Logistics 3 *unit(s)*
- BUS2 133A - International Marketing 3 *unit(s)*
- BUS2 133B - Relationship Marketing: Pacific Rim 3 *unit(s)*
- BUS2 133C - International Marketing: Developing Nations 3 *unit(s)*
- BUS2 134C - Social Media Marketing 3 *unit(s)*
- BUS2 135 - Sales Management 3 *unit(s)*
- BUS2 136 - Product Development 3 *unit(s)*
- BUS2 137A - Soft Skills 3 *unit(s)*
- BUS2 137S - Special Topics in Marketing 3 *unit(s)*

### University Electives (4 units)

### Total Units Required (120 units)

*BUS2 90 - Business Statistics*

3 *unit(s)*

In terms of theory and application: collection and presentation of data; measures of central values and spread; probability as a measure of uncertainty; sampling and sampling distribution of the sample mean; confidence intervals; hypothesis testing; regression and correlation.

**Prerequisite(s):** MATH 71 MATH 71X.

**Grading:** Graded

*BUS2 92 - International Program Studies*

1-12 *unit(s)*

**Grading:** Mixed Grading

*BUS2 130 - Introduction to Marketing*

3 unit(s)

Analysis of marketing opportunities; planning of marketing programs with emphasis on product, price, promotion and distribution; control of the marketing effort; social and ethical responsibilities of marketing. Recommended: COMM 100W or ENGL 100WB or LLD 100WB.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*BUS2 131A - Business to Business Marketing*

3 unit(s)

Marketing of goods, services and ideas to businesses. Examines distribution, pricing, promotion, marketing research and planning. Emphasizes strategy development and the decision-making processes of customers.

**Prerequisite(s):** BUS2 130. Upper division standing.

**Grading:** Graded

*BUS2 131B - Retail Marketing Management*

3 unit(s)

Special issues faced and approaches taken in retailing. Topics include store location, merchandise selection and display, financial management, promotion, store layout and image.

**Prerequisite(s):** BUS2 130. Upper division standing.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*BUS2 131D - Marketing in New Ventures*

3 unit(s)

Examines and explores the roles of marketing in the new venture. Focuses on learning conceptual framework for understanding customers, designing appropriate marketing activities, making marketing decisions and addressing marketing problems in building a new venture. Students analyze cases and undertake projects.

**Prerequisite(s):** BUS2 130.

**Grading:** Graded

*BUS2 132B - Business Logistics*

3 unit(s)

Logistics in the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption for the purpose of conforming to customer requirements.

**Prerequisite(s):** BUS2 130 and BUS2 190. Upper division standing.

**Grading:** Graded

*BUS2 133A - International Marketing*

3 unit(s)

Impact of the international business environment on the development of marketing strategy and marketing mix, with

emphasis on development of a global perspective and cultural sensitivity. Also covers international trade, importing and exporting.

**Prerequisite(s):** BUS2 130. Upper division standing.

**Grading:** Graded

*BUS2 133B - Relationship Marketing: Pacific Rim*

3 unit(s)

Why not use PacRim marketing methods in PacRim markets? Americans tend to be short-term, sales-oriented. Asians tend to be relationship oriented. Why not master both marketing methods? Focus: Launching a "start-up". Topics: PacRim forms of product-launch, sales presentation, negotiation, promotion, PacRim risks.

**Prerequisite(s):** BUS2 130.

**Grading:** Graded

*BUS2 133C - International Marketing: Developing Nations*

3 unit(s)

Why not use Third World marketing methods in Third World markets? Russian, African and Islamic regions pose special risks for U.S. marketers. Focus: Third World ways to cope. Topics: Bribery, corruption, terrorism, smuggling, as well as Anti-Americanism, Market-Communism, Fundamentalist Islam.

**Prerequisite(s):** BUS 130. Upper division standing.

**Grading:** Graded

*BUS2 133E - Marketing to Eastern/Western Europe*

3 unit(s)

To market in Europe, one must learn how Europeans market. Developed and evolved over centuries, European business methods are complex, subtle, and largely unknown to America. This course provides insights into these methods.

**Prerequisite(s):** BUS2 130

**Grading:** Graded

*BUS2 134A - Consumer Behavior*

3 unit(s)

An examination of psychological, sociological, and other factors that affect customer behavior. These factors are examined in an effort to help businesses and other organizations to accurately assess and effectively satisfy customer needs.

**Prerequisite(s):** BUS 130, and Any 100w. Upper division standing

**Grading:** Graded

*BUS2 134B - Integrated Marketing Communications*

3 unit(s)

Focus is on design and delivery of marketing messages to targeted audiences. Analysis and planning seeks integration of messages delivered through advertising, sales promotion, personal selling, public relations, and other communication methods.

**Prerequisite(s):** BUS2 130 and Any 100w. Upper division standing.  
**Grading:** Graded

*BUS2 134C - Social Media Marketing*

*3 unit(s)*

This course seeks to provide students with insights into the latest technologies and medial platforms available to marketers and used in marketing practice. Students will learn about major theories, best practices, new technologies and new media platforms and apply them to real-life examples.

**Prerequisite(s):** BUS2 130  
**Grading:** Graded

*BUS2 135 - Sales Management*

*3 unit(s)*

Teaches skills in personal selling with guidelines for designing and managing the sales function. Topics include advanced sales techniques, high impact questioning methodologies, closing techniques and managing objections, account and territory planning and management, resource planning and management, and sales compensation programs.

**Prerequisite(s):** BUS2 130. Upper division standing.  
**Grading:** Graded

*BUS2 136 - Product Development*

*3 unit(s)*

Integrative analysis of product development related to life-cycle management. Emphasis is on new product/service planning.

**Prerequisite(s):** BUS2 130. Upper division standing.  
**Grading:** Graded

*BUS2 137A - Soft Skills*

*3 unit(s)*

An examination of the soft skills (self-management skills and people skills) employers feel recent college graduates are lacking. Some of these skills include, but aren't limited to, listening skills, likability, flexibility, giving/receiving criticism, work ethic, dining etiquette, cultural sensitivity, etc.

**Prerequisite(s):** BUS2 130  
**Grading:** Graded

*BUS2 137H - Marketing Honors Practicum*

*3 unit(s)*

Course involves sponsored projects in the area of Marketing. Students are assigned to a host company and are required to work with the host company and faculty advisor on a topic in Marketing. A report will be presented.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** BUS2 130, or Instructor consent.

**Grading:** Graded

*BUS2 137S - Special Topics in Marketing*

3 unit(s)

Special topics in the management of marketing or in the marketing environment. The instructor may choose to address one special topic, theme, or several related topics. Requires one or more projects, at instructors discretion.

**Prerequisite(s):** BUS2 130.

**Grading:** Graded

*BUS2 138 - Marketing Research*

3 unit(s)

Fundamentals of empirical study in marketing, including hypotheses formulation, testing, and the basis of inference. Questionnaire and experimental design, attitude measurement, sampling and data collection, and analysis are emphasized along with applications to marketing decision-making.

**Prerequisite(s):** BUS2 90, BUS2 130, Any 100W. Upper division standing.

**Grading:** Graded

*BUS2 139 - Marketing Management*

3 unit(s)

Marketing management is a capstone course whose purpose is to provide the student with the opportunity to demonstrate and integrate the capabilities acquired from the prerequisite courses.

**Prerequisite(s):** BUS2 130, BUS2 134A, BUS2 134B, BUS2 138, COMM 100W or ENGL 100WB or LLD 100WB and Senior standing. BUS2 190 is strongly recommended.

**Grading:** Graded

*BUS2 180F - Indiv Study Mktg*

1-4 unit(s)

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*BUS2 190 - Quantitative Business Analysis*

3 unit(s)

Quantitative models and computer software used in business decision-making. Studies of network and transportation models, linear programming, CPM/PERT project analysis, decision analysis, simulation and other techniques used in management science applications.

**Prerequisite(s):** BUS2 90, and MATH 71 or MATH 71X. Upper Division Standing. Not available to Open University Students.

**Grading:** Graded

*BUS2 191 - Decision Making Under Uncertainty*

3 unit(s)

Decision analysis models and methods for optimizing decision policies: Bayes' Theorem, decision trees, influence diagrams, utility functions and certainty equivalence functions for risk-averse analyses, measures of the value of information, use of relevant spreadsheet computer tools.

**Prerequisite(s):** BUS2 90 or any one of the following: BUS2 190, PH 167, ISE 130, ECON 3, ECON 103A or Instructor Consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*BUS2 192A - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*BUS2 193 - Data Mining*

3 unit(s)

Data Mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in very large databases or through web mining. Topics: data visualization, association rules, clustering, and various modern classification techniques.

**Prerequisite(s):** BUS2 90, BUS2 130 or Instructor Consent

**Grading:** Graded

*BUS2 194A - Statistical Analysis*

3 unit(s)

This course develops fundamental knowledge and skills for applying statistics in business decision-making. Topics include hypothesis testing, simple and multiple regression, experimental design, time series analysis and non-parametric estimation.

**Prerequisite(s):** BUS2 90

**Grading:** Graded

*BUS2 194B - Business Analytics*

3 unit(s)

This course covers applications of linear, nonlinear, and discrete optimization as well as the modeling of stochastic processes, including inventory control models and waiting line models.

**Prerequisite(s):** BUS2 190

**Grading:** Graded

*BUS2 195A - Spreadsheet Modeling*

3 unit(s)

Develop your analytical modeling skills and learn advanced features of Excel. Focus is on using Excel to model real-world decision-making problems. Covers Excel features including IF functions, lookup tables, date and text manipulation, sorting, filtering, graphing, and VBA.

**Prerequisite(s):** BUS2 190

**Grading:** Graded

*BUS2 195B - Data Visualization*

*3 unit(s)*

This course focuses on state-of-the-art data techniques for creating effective visualizations for structured and unstructured data. The course targets students who are interested in using visualizations to better understand information and communicate with other people.

**Prerequisite(s):** BUS2 90

**Grading:** Graded

*BUS2 195C - Simulation Modeling and Analysis*

*3 unit(s)*

Building and using simulation models in business systems using both Excel and high-level simulation software package. Topics include discrete-event simulation, Monte Carlo simulation, simulation input data collection and analysis, statistical analysis of simulation output.

**Prerequisite(s):** BUS2 190.

**Grading:** Graded

*BUS2 195D - Analytic Strategy*

*3 unit(s)*

This course provides hands-on experience in transforming large amounts of diverse data into business decisions. This is accomplished via an engaging, complex simulation in which participants develop data-driven tactical and strategic decisions.

**Prerequisite(s):** BUS2 194A and BUS2 194B

**Grading:** Graded

## Lucas Graduate School of Business

**Office:** Business Tower 350

**Telephone:** 408-924-3420

**Email:** lucas-school@sjsu.edu

**Website:** [www.sjsu.edu/lucasgsb](http://www.sjsu.edu/lucasgsb)

The Donald and Sally Lucas Graduate School of Business offers the following graduate degree programs:

- Master of Business Administration
  - Early Career MBA
  - MBA for Professionals (Special Session)
- Master of Science in Accountancy
- Master of Science in Taxation (Special Session)
- Master of Science in Transportation Management (Special Session)

All of the Lucas School's business degree programs are accredited by AACSB International - The Association to Advance Collegiate Schools of Business.

## Mission of the Donald and Sally Lucas Graduate School of Business

The Lucas School provides advanced business and professional education to high potential individuals with diverse backgrounds and work experiences. We prepare our graduates to make responsible, personally enriching, and professionally advantageous decisions. The Lucas School's business programs bring together an interesting mix of full-time and part-time students from a variety of academic, career, and cultural backgrounds. Given SJSU's Silicon Valley location, students come to the classroom with a wealth of real-world experience, including technical expertise (in engineering or software, for example), and wanting to develop business acumen, advance in managerial positions, or deepen their knowledge base.

## Our Programs

The programs are innovative in design and delivery and offer a range of academically challenging and multi-disciplinary opportunities that enable students to improve and keep pace continuously within the dynamic Silicon Valley environment.

1. The **Master of Business Administration** provides advanced management education with the opportunity for a generalist degree. The Lucas MBA programs offer high caliber applied learning in an enriching environment thoroughly integrated with the Silicon Valley Experience. Courses are taught by an optimal mix of academics involved in cutting-edge research and professionals with extensive experience in the mosaic of high-tech and service businesses that constitute Silicon Valley. Students are exposed to leading business practices in the classroom and networking opportunities as an integral part of an innovative educational experience. The Lucas MBA programs consist of forty-two semester units including thirty units of core courses and twelve units of elective courses. Within an MBA program, all students complete the same core courses whereas the elective courses are selected depending on the individual's interests and learning objectives.
  1. The Early Career MBA is a program tailored for individuals with limited professional work experience (0-5 years). Classes meet on the vibrant San José State University Campus where students have access to a wealth of resources. Courses typically meet evenings and Saturdays in eight-week sessions during the Fall and Spring semesters and five-week sessions during the Summer semester. Students follow a pre-set sequence of core courses and select elective courses depending on their area of interest. An approved three unit Internship may count as one of the elective courses. This unique MBA program offers three different tracks that vary in length and pace:
    - Accelerated Track - Designed for individuals who are willing to follow a very intense academic pace and wish to complete their MBA degree in 12 months.
    - Full-Time Track - Designed for individuals who are interested in completing their MBA degree in 21-24 months. The full-time track is ideal for international students and complies with all student visa requirements.
    - Part-Time Track - Designed for individuals who are working in full-time professional positions and are interested in completing their MBA degree in 33 to 36 months.
  2. The MBA for Professionals is a Special Session program that is tailored for individuals with extensive professional work experience (5+ years). Offering a high level of flexibility, this program accommodates students with a demanding work and life schedule. Classes meet on the vibrant San José State University Campus where students have access to a wealth of resources. The diverse educational and professional backgrounds of the students makes the Silicon Valley



Experience an integral part of the MBA classroom. Courses typically meet evenings and Saturdays in eight-week sessions during the Fall and Spring semesters and five-week sessions during the Summer semester, with some courses available on-line. Students are able to choose and adjust the pace in which they complete their degree. This program can be completed in 2 to 3 years.

2. The MS - Accountancy (MSA) program is a full-time, daytime, 12-month program that admits accounting and non-accounting undergraduate majors in a competitive process that includes assessments by practitioners as well as faculty. Course work is structured around the accounting cycle to strongly encourage students to combine academic learning with accounting work experience (or internships) as well-rounded preparation for careers in professional accounting.
3. The MS - Taxation (MST) is a Special Session program that offers students technical knowledge, an understanding of tax policies and research and analytical skills development. Study of the tax law is enhanced through discussion of related accounting, legal and financial concepts and issues. The academic calendar is designed around the scheduling needs of working tax professionals. The extensive range of courses allows students flexibility in career specialization. The MST courses are offered on the San José State University Campus.
4. The MS - Transportation Management (MSTM) is a Special Session program that provides opportunities for individuals from both technical and non-technical disciplines to obtain advanced specialization in surface transportation management. The program draws on the latest in transportation policy, administration and management concepts from several disciplines, and enables students to develop a fuller understanding of the diverse and sometimes conflicting needs of modern transportation management for better serving their employers, community and society. The degree is available through distance-learning facilities and online video-conferencing.
5. The MBA/MS Engineering (with specializations in Systems Engineering and Software Engineering) - is a Special Session Off-Campus accelerated evening sequential degree program is a combined program for engineering professionals who wish to pursue technical and executive management positions.

## Master

### Accountancy, MS

The Master of Science in Accountancy, offered by the Lucas College and Graduate School of Business, is a flexible 30-unit degree program designed for both accounting and non-accounting undergraduates who aspire to a profession in accounting. Coursework includes advanced financial reporting, auditing, taxation, IT auditing, and financial statement analysis. Students with an undergraduate degree in accounting enroll in a course of study to earn a masters degree that fulfills the 30 additional units required for CPA licensure. Ambitious, highly motivated people with undergraduate degrees in liberal arts, sciences, or business will need to complete the intensive Certificate in Accounting Fundamentals summer program before they can be admitted into the MSA degree program.

For more information, see the Lucas Graduate School of Business website at [www.sjsu.edu/lucasgsb/programs/msa](http://www.sjsu.edu/lucasgsb/programs/msa).

### Purpose of the MSA Program

The MSA program prepares students for a career in public or corporate accounting by providing them with a strong foundation for both public accounting certification (CPA) and career advancement.

### Educational Objectives

Students with an MSA degree should understand the accounting principles and procedures involved in measuring, recording, summarizing and reporting financial and nonfinancial data for business organizations; taxation concepts;

auditing and control procedures; and the ethical and legal challenges in an accounting career. They should communicate effectively, both orally and in writing, evaluate information technology, and demonstrate analytical proficiency.

## Benefits of the MSA

The program is designed for people with undergraduate degrees in accounting who want to further their studies in accounting while acquiring an additional 30 units needed for CPA licensure. It also allows liberal arts /sciences/business undergraduates who are interested in changing careers an entrance into the accounting profession. The course work and optional internship provide opportunities to build a framework for a successful and rewarding career in public or corporate accounting.

## Admissions Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MSA program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Admission to Classified Standing

To be fully accepted into the MSA in classified standing, an applicant must have:

- A four-year bachelor's degree from an accredited college or university in the United States or from a recognized institution if the degree was earned outside of the United States.
- A preferred GPA of 3.0 or better (on a 4.0 scale) in the last 60 semester units or 90 quarter units of course work (Professional Development and Certificate Program course work cannot be included in this calculation);
- A Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. SJSU students are waived from the GMAT/GRE requirement; and
- Taken an English proficiency exam if the applicant graduated from a postsecondary institution in a country where English is not the principal language. Accepted exams include the TOEFL (Test of English as a Foreign Language) with a preferred score of 90, the International English Language Testing System (IELTS) with a preferred score of 7.5, and the Pearson Test of English (PTE) with a preferred score of 75.

In addition, a personal interview may be conducted for each applicant.

## Requirements for Admission to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status. Ambitious, highly motivated applicants with undergraduate degrees in liberal arts, sciences or business will need to complete the intensive Certificate in Accounting Fundamentals program during the summer semester before matriculation into the MSA degree program. The individual admission letter will explain required terms and conditions for attaining Classified standing.

## Program of Study Requirements

To receive the Master of Science in Accountancy, students must complete 30 semester units of prescribed course work. Specific program policies include the following:

### Prerequisites

The curriculum requires completion of two lower division and five upper division prerequisite courses (3 semester hours or equivalent) within the past five years with an average grade in the courses of "B" (3.0) or better prior to the start of the program. All upper division prerequisites must be completed at an accredited four-year university in the U.S. The seven prerequisite courses are:

1. Introductory Financial Accounting (lower division course, gateway to upper division courses 2-6)
2. Intermediate Financial Accounting I
3. Intermediate Financial Accounting II
4. Accounting Information Systems
5. Management Accounting and Control Systems
6. Taxation of Individuals and Flow-Through Entities
7. Statistics (lower division course)

Students may be conditionally admitted into the program pending completion of the prerequisite courses. Students must, at a minimum, submit completion and/or verification of enrollment in Introductory Financial Accounting and Statistics by the published GAPE document submission deadline. One way to fulfill the rest of the prerequisites is to enroll in the Certificate in Accounting Fundamentals at SJSU to complete courses 2-6 with an average of B in the summer preceding Fall enrollment in the MSA program.

### Course Requirements

The 30 semester units of coursework include three core courses (9 units) required of all students, two core courses (6 units) from a list of designated topics, a culminating experience course (3 units), and four elective MSA courses (12 units). Electives may be taken from offerings in the MST and/or MBA programs with approval from the MSA director.

### Internship

The courses in the MSA program are designed to prepare students for internships with public accounting firms, governmental agencies, and corporations. From January through March, students may enroll in an internship course, BUS 220K. Students in this course gain practical work experience, participate in firm training programs, and attend roundtable meetings to discuss topics such as professional ethics, working in the professional environment, communication effectiveness, marketing professional services and planning for professional growth.

### Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Culminating Experience

### Plan B (Project)

All students must complete a comprehensive project integrating business functional and interdisciplinary areas. The MSA culminating experience is incorporated into BUS 220N - Management of Organizations and Projects and into BUS 220A - Financial Statement Analysis for Accountants. An individual written project report is required, and may take the form of a field study, business plan, research project or business simulation.

## Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate-level course work. Students who receive grades of C-, D, F, or U in any business graduate course must repeat that course to achieve a grade of C or better.

## Other University Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Students must comply with all other graduate requirements contained in this catalog.

## Pre-requisite Courses

Any of the prerequisite courses may be waived through evidence of recent prior equivalency (within the last five years with a grade of "B" or better)

- Introductory Financial Accounting
- Intermediate Financial Accounting I
- Intermediate Financial Accounting II
- Accounting Information Systems
- Management Accounting and Control Systems
- Taxation of Individuals and Flow-Through Entities
- Statistics

## Masters Requirements (30 units)

### Required Courses (15 units)

If more than two courses are taken, two fulfill the core course requirements and all others are electives.

- BUS 220J - Business Communications & Ethics 3 *unit(s)* (GWAR)
- BUS 220U - IT Audit & Internal Controls 3 *unit(s)*

- BUS 220Z - Data Analytics for Accounting 3 *unit(s)*

## Choose Two of the Following Courses

Choose two of the following courses in consultation with graduate advisor:

- BUS 220G - Tax Factors of Business and Investment Decisions: Theory and Practice 3 *unit(s)*
- BUS 220H - Auditing: Concepts/Practice 3 *unit(s)*
- BUS 220R - Software Applications for Accounting 3 *unit(s)*
- BUS 220S - Financial Reporting and Analysis III 3 *unit(s)*
- BUS 220V - Special Topics in Accounting 3 *unit(s)*

## Electives (12 units)

**12 units of elective courses selected in consultation with the graduate advisor.**

## Culminating Experience (3 units)

### Plan B (Project)

Complete one course from:

If both courses are taken, one is the comprehensive project and the other is an elective.

- BUS 220A - Financial Statement Analysis for Accountants 3 *unit(s)*
- BUS 220N - Management of Organizations and Projects 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Business Administration (Early Career), MBA

### Purpose of the MBA Program

The MBA program provides a strong foundation of business concepts, models, skills, and methods with which to face immediate and future managerial challenges. The basic program aims at creating a general management (rather than a functional specialist) perspective. Pragmatic in approach, the focus is on problem analysis and synthesis, decision making, action taking throughout the functional areas of business, and understanding the international context of business. The Lucas Graduate School of Business prepares students through a broad curriculum of functional core courses, cross-functional and integrative courses, and elective courses.

# Educational Objectives

The educational objectives of the Donald and Sally Lucas Graduate School of Business MBA are threefold: to provide a solid base of interdisciplinary business theories and techniques; to apply theory and analytic tools to the practical improvement of organizational performance; to explore personal beliefs and values as they affect ethical and economic organizational practices. Key processes involve: investigating opportunities and problems; defining causes or contributing factors to problems, including those that cut across organizational units; generating alternatives from which feasible programs of action are selected and implemented; and monitoring and changing, where necessary, the progress of enacted decisions.

These skills are developed using a combination of approaches including: the case method, experiential exercises, computer simulations, team projects, and problem sets. Students are expected to develop competencies both as action-oriented leaders and as logical decision-makers.

# Benefits of the MBA

The program is geared to the professionally-oriented person who aspires to move into middle management or to undertake greater managerial responsibility. It is designed to aid those who have the capabilities or potential to be action initiators rather than those who prefer to develop reports and recommendations for decision-makers. The MBA program accommodates students with a variety of educational and work backgrounds. Business development projects are available to MBA students. The Lucas School has alliances with business incubator partners in Silicon Valley. Students have an opportunity to work with international businesses and entrepreneurial Silicon Valley startups.

# Lucas MBA Programs

Although SJSU grants one unique MBA degree, the Lucas Graduate School of Business offers two distinct MBA programs that differ according to student profile, flexibility, degree completion time, admission cycle, and cost.

The Early Career MBA program is tailored to students who have fewer than five years of work experience. Classes are held on the SJSU campus during evenings and Saturdays in eight-week sessions. The Early Career Program offers three tracks that vary in length and pace: Accelerated Track (12 months), Full-Time Track (21-24 months), and Part-Time Track (33-36 months).

The MBA for Professionals is designed for working professionals with more than five years of work experience. This program offers a high level of flexibility in order to accommodate professionals with demanding life and work schedules. Classes meet evenings and Saturdays in eight-week sessions year-round, with some courses available online. Classes are held on the SJSU campus.

# Admission Requirements

## Requirements for Admission to Classified Standing

To be fully accepted into classified standing, an applicant must have:

1. A bachelor's degree from an accredited university in the U.S. or the equivalent of a U.S. bachelor's degree earned from a recognized institution if the degree was earned outside of the U.S.

2. A preferred GPA of 3.0 on a 4.0 scale.
3. Taken an English language proficiency examination if the previously earned degree was from an institution in which the principal language of instruction was not English. The university's minimum entrance score for the TOEFL is 213 (computer-based) or 80 (internet-based). The minimum score required on the IELTS is 6.5, and the minimum PTE score is 53.
4. Taken the Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE). Scores at the 50th percentile in both the quantitative and verbal sections of either exam are considered competitive. Conditional on the approval of the MBA Director, the GMAT/GRE requirement may be waived if the applicant has any of the following:
  1. Earned a Master's degree or Ph.D. from an accredited institution in the United States.
  2. Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.
  3. A GPA of at least 3.2 AND completed at least 5 years of full-time professional work experience with increasing responsibilities and a managerial role over people and/or budgets. An interview with the MBA Director and/or a letter from the supervisor attesting to the level of work responsibilities may be required.
5. Completed two prerequisite courses (Economics and Statistics, with a grade of B or higher). The economics course may be one of the following: Introduction to Microeconomics, Introduction to Macroeconomics, or Principles of Economics. An applicant may be admitted to the MBA program on a conditional admission basis prior to completion of these two courses but will need to provide proof of completion of all prerequisites before the day of orientation.
6. A personal statement of one to two pages explaining how an MBA can help to achieve the applicant's career objectives.
7. A resume detailing your professional and academic experiences.
8. (Optional) Two letters of recommendation.

The Lucas School does not follow a set formula for determining admission to the MBA programs. Our goal is to admit academically qualified candidates who show potential for completing the program and advancing into a successful business career. We seek to admit students whose backgrounds will enable them to contribute to the academic excellence and the demographic, educational, and experiential diversity of each class.

An applicant's academic profile - undergraduate major and institution, any graduate-level work, GPA, and GMAT or GRE scores - is a major factor in the admission decision. Other important areas of evaluation include a personal statement, work experience, letters of recommendation, writing skills, and extracurricular, community, and professional activities. From this overall review, we assess an applicant's potential for success and compatibility with our MBA program.

The GMAT or GRE score is just one part of a candidate's overall profile. We realize that the GMAT/GRE has certain limitations, as does any standardized test; however, these exams do allow comparison among applicants from different schools, different countries, and different majors. We encourage all applicants to prepare for the exam, take it as early as possible, and retake it if their score is not competitive.

The average GPA of admitted candidates is 3.3. Ideally, a candidate's GPA will be at 3.0 or above. Many circumstances may exist which offer an explanation for a GPA below 3.0; candidates are encouraged to submit a statement of explanation if this is the case. However, please note that an absolute minimum GPA of 2.5 is required for graduate admission at San José State University.

## Program of Study Requirements for the MBA Degree

To earn the MBA degree, all students must satisfy the following requirements:

## Business Prerequisite Courses

- Introduction of Macroeconomics (at SJSU this course is ECON 1A - Principles of Economics: Macroeconomics) or Introduction to Microeconomics (at SJSU this course is ECON 1B - Principles of Economics: Microeconomics) or Principles of Economics
- Statistics (at SJSU this course is BUS2 90 - Business Statistics)

## Advanced Management Courses (Core Courses)

In the Early Career MBA, all students are required to successfully complete eleven core courses for a total of thirty semester units. In the MBA for Professionals, all students are required to successfully complete eleven core courses for a total of thirty semester units. Although the total units of core courses are identical across the two MBA programs, the composition of the core curriculum is slightly different to account for the differences in student academic and professional profiles. The advanced graduate courses (core courses - 30 units) ensure breadth in general management knowledge and help the student to develop mastery in applying essential business skills.

## Elective Courses

Four elective courses (12 units) are required of all students. As an elective course, a graduate student can select a maximum of one upper-division business undergraduate course (100-level) OR one graduate non-business course (200-level). Enrollment in such an elective course is conditional on the written approval by the MBA Director and it is specific to a given course and a given semester.

## Comprehensive Project

The comprehensive project is incorporated in the Strategic Thinking course (BUS 290). The comprehensive project is a culminating experience integrating business functional and interdisciplinary areas. An individual written project report is required and an oral examination may be included. The project may take the form of a field study, research project, business simulation, or a strategic plan for an organization, as assigned by the Business 290 instructor. Students must receive an overall equivalent grade of "B" or better on the comprehensive project, and may be given a maximum of two opportunities to satisfy requirements.

## Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate level course work. Students who receive grades of "C-", "D", "F" or "WU" in any business graduate course must repeat that course to achieve a grade of "C" or better.



## Transfer Credit

Subject to the approval of the Donald and Sally Lucas Graduate School of Business MBA Program Director and validation by the College of Graduate Studies, students may transfer a maximum of twelve semester units of business graduate course work from another regionally accredited institution. Grades in the transfer courses must be "B" or better.

## Other University Requirements

Students must comply with all other graduate requirements contained in this catalog.

### Early Career MBA Requirements (42 units)

### Advanced Management Courses (Breadth Requirements) (27 units)

- BUS 201 - Business Communications *1 unit(s)*
- BUS 202 - Managing in the Global Economy *3 unit(s)*
- BUS 210 - Developing and Managing People *3 unit(s) (GWAR)*
- BUS 220 - Financial and Managerial Accounting *3 unit(s)*
- BUS 230 - Marketing Management *3 unit(s)*
- BUS 250 - Law and Ethics *3 unit(s)*
- BUS 260 - Managerial Decision Analysis *3 unit(s)*
- BUS 265 - Silicon Valley Experience *2 unit(s)*
- BUS 270 - Financial Management *3 unit(s)*
- BUS 280 - Operations and Supply Chain Management *3 unit(s)*

### Electives (12 units)

Four elective courses. Students may take a maximum of one 100-level business course OR 200-level non-business course with written approval of MBA director.

### Culminating Experience (3 units)

#### Plan B (Project)

- BUS 290 - Strategic Thinking *3 unit(s)*

### Total Units Required (42 units)

## Business Administration (For Professionals), MBA

## Purpose of the MBA Program

The MBA program provides a strong foundation of business concepts, models, skills and methods with which to face immediate and future managerial challenges. The basic program aims at creating a general management (rather than a functional specialist) perspective. Pragmatic in approach, the focus is on problem analysis and synthesis, decision making, action taking throughout the functional areas of business, and understanding the international context of business. The Lucas Graduate School of Business prepares students through a broad curriculum of functional core courses, cross-functional and integrative courses, and elective courses.

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1. A bachelor's degree from an accredited university in the U.S. or the equivalent of a U.S. bachelor's degree earned from a recognized institution if the degree was earned outside of the U.S.
2. A preferred GPA of 3.0 on a 4.0 scale.
3. Taken an English language proficiency examination if the previously earned degree was from an institution in which the principal language of instruction was not English. The university's minimum entrance score for the TOEFL is 213 (computer-based) or 80 (internet-based). The minimum score required on the IELTS is 6.5, and the minimum PTE score is 53.
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  1. Earned a Master's degree or Ph.D. from an accredited institution in the United States.
  2. Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.
  3. A GPA of at least 3.2 AND completed at least 5 years of full-time professional work experience with increasing responsibilities and a managerial role over people and/or budgets. An interview with the MBA Director and/or a letter from the supervisor attesting to the level of work responsibilities may be required.
5. Completed two prerequisite courses (Economics and Statistics, with a grade of B or higher). The economics course may be one of the following: Introduction to Microeconomics, Introduction to Macroeconomics, or Principles of Economics. An applicant may be admitted to the MBA program on a conditional admission basis prior to completion of these two courses but will need to provide proof of completion of all prerequisites before the day of orientation.
6. A personal statement of one to two pages explaining how an MBA can help to achieve the applicant's career objectives.
7. A resume detailing your professional and academic experiences.
8. (Optional) Two letters of recommendation.

The Lucas School does not follow a set formula for determining admission to the MBA programs. Our goal is to admit academically qualified candidates who show potential for completing the program and advancing into a successful business career. We seek to admit students whose backgrounds will enable them to contribute to the academic excellence and the demographic, educational, and experiential diversity of each class.

An applicant's academic profile - undergraduate major and institution, any graduate-level work, GPA, and GMAT or GRE scores - is a major factor in the admission decision. Other important areas of evaluation include a personal statement, work experience, letters of recommendation, writing skills, and extracurricular, community, and professional activities. From this overall review, we assess an applicant's potential for success and compatibility with our MBA program.

The GMAT or GRE score is just one part of a candidate's overall profile. We realize that the GMAT/GRE has certain limitations, as does any standardized test; however, these exams do allow comparison among applicants from different schools, different countries, and different majors. We encourage all applicants to prepare for the exam, take it as early as possible, and retake it if their score is not competitive.

The average GPA of admitted candidates is 3.3. Ideally, a candidate's GPA will be at 3.0 or above. Many circumstances may exist which offer an explanation for a GPA below 3.0; candidates are encouraged to submit a statement of explanation if this is the case. However, please note that an absolute minimum GPA of 2.5 is required for graduate admission at San José State University.

# Program of Study Requirements for the MBA Degree

To earn the MBA degree, all students must satisfy the following requirements:

## Business Prerequisite Courses

- Introduction of Macroeconomics (at SJSU this course is ECON 1A - Principles of Economics: Macroeconomics) or Introduction to Microeconomics (at SJSU this course is ECON 1B - Principles of Economics: Microeconomics) or Principles of Economics
- Statistics (at SJSU this course is BUS2 90 - Business Statistics)

## Advanced Management Courses (Core Courses)

In the Early Career MBA, all students are required to successfully complete eleven core courses for a total of thirty semester units. In the MBA for Professionals, all students are required to successfully complete eleven core courses for a total of thirty semester units. Although the total units of core courses are identical across the two MBA programs, the composition of the core curriculum is slightly different to account for the differences in student academic and professional profiles. The advanced graduate courses (core courses - 30 units) ensure breadth in general management knowledge and help the student to develop mastery in applying essential business skills.

## Elective Courses

Four elective courses (12 units) are required of all students. As an elective course, a graduate student can select a maximum of one upper-division business undergraduate course (100-level) OR one graduate non-business course (200-level). Enrollment in such elective course is conditional on the written approval by the MBA Director and it is specific to a given course and a given semester.

## Comprehensive Project

The comprehensive project is incorporated in the Strategic Thinking course (BUS 290). The comprehensive project is a culminating experience integrating business functional and interdisciplinary areas. An individual written project report is required and an oral examination may be included. The project may take the form of a field study, research project, business simulation, or a strategic plan for an organization, as assigned by the Business 290 instructor. Students must receive an overall equivalent grade of "B" or better on the comprehensive project, and may be given a maximum of two opportunities to satisfy requirements.

## Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Maintenance of 3.0 GPA

Students must maintain a grade point average of 3.0 or better on all graduate-level course work. Students who receive grades of "C-", "D", "F" or "WU" in any business graduate course must repeat that course to achieve a grade of "C" or better.

## Transfer Credit

Subject to the approval of the Donald and Sally Lucas Graduate School of Business MBA Program Director and validation by the College of Graduate Studies, students may transfer a maximum of twelve semester units of business graduate course work from another regionally accredited institution. Grades in the transfer courses must be "B" or better.

## Other University Requirements

Students must comply with all other graduate requirements contained in this catalog.

### MBA for Professionals Requirements (42 units)

#### Advanced Management Courses (Breadth Requirements) (27 units)

- BUS 200L - Leadership Communication 2 *unit(s)* (GWAR)
- BUS 210 - Developing and Managing People 3 *unit(s)* (GWAR)
- BUS 220 - Financial and Managerial Accounting 3 *unit(s)*
- BUS 230 - Marketing Management 3 *unit(s)*
- BUS 250 - Law and Ethics 3 *unit(s)*
- BUS 260 - Managerial Decision Analysis 3 *unit(s)*
- BUS 265P - Silicon Valley Experience for Professionals 1 *unit(s)*
- BUS 270 - Financial Management 3 *unit(s)*
- BUS 280 - Operations and Supply Chain Management 3 *unit(s)*

#### Complete One Course From:

- BUS 202 - Managing in the Global Economy 3 *unit(s)*
- BUS 203 - International Experience for American Executives 3 *unit(s)*

#### Electives (12 units)

Four elective courses. Students may take a maximum of one 100-level business course OR 200-level non-business course with written approval of MBA director.

#### Culminating Experience (3 units)

##### Plan B (Project)

- BUS 290 - Strategic Thinking 3 unit(s)

## Total Units Required (42 units)

Note: Four elective courses must be taken in addition to the Advanced Management Courses (Core Courses) in order to achieve the total of 42 semester units. A graduate student can select a maximum of one upper-division business undergraduate course OR one graduate non-business course conditional upon the written approval of a given course and a given semester by the MBA Director. Enrollment in BUS 203 is conditional on the approval of the MBA Director and the BUS 203 instructor.

### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

## Taxation, MS

The Master of Science in Taxation (MST) Program is a 30-unit program designed to provide individuals with the conceptual understanding and sound technical knowledge necessary to compete successfully in the ever-changing tax world. It is appropriate for individuals already working in public accounting, a corporate tax department, a law practice or government service. College graduates with an accounting degree who wish to pursue a career in taxation and/or meet the 150 unit requirement to become a CPA will also benefit from the program. (State fee schedule does not apply.)

**Lucas Graduate School of Business Website:** [sjsu.edu/lucasgsb/prospective-students/mst](https://sjsu.edu/lucasgsb/prospective-students/mst)

## Admissions Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](https://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MST program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Admission to Classified Standing

To be fully accepted into the MST in classified standing, an applicant must have:

1. Earned a Master's degree or Ph.D. from an accredited institution in the United States.
2. Completed the following undergraduate courses (or equivalent) prior to admission.
  - BUS1 20 - Financial Accounting

- BUS1 21 - Managerial Accounting
- BUS1 121A - Intermediate Accounting I
- BUS1 121B - Intermediate Accounting II
- BUS1 123A - Tax Factors of Business and Investment Decision

These requirements may be fulfilled at a community college. If your undergraduate degree is in Accounting, you have satisfied the course prerequisites.

3. A four-year bachelor's degree from an accredited college or university in the United States or from a recognized institution if the degree was earned outside of the United States.
4. A GPA of 3.0 or better (on a 4.0 scale) in your last 60 semester units or 90 quarter units of course work (Professional Development and Certificate Program course work cannot be included in this calculation).
5. A Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. Conditional on the approval of the MST Director, the GMAT/GRE requirement may be waived if the applicant has any of following:
  1. Passed all parts of the CPA exam (in the United States).
  2. Passed the Enrolled Agent exam administered by the IRS.
  3. Scored 145 or higher in the LSAT exam.
  4. Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.
  5. A GPA of at least 3.2 from an accredited U.S. university AND completed at least three years of full-time work experience in taxation. An interview with the MST Director and/or a letter from the supervisor attesting to type of work responsibilities may be required.
  6. A GPA of at least 3.75 from an accredited U.S. university. An interview with the MST Director may be required.

# Program of Study Requirements for the Master of Science in Taxation

## Core Taxation Courses

Five core taxation courses (15 units) are required of all students. Of the core courses, two must be selected from a list of designated topic areas (business entities and multijurisdictional taxation); see below for details.

## Elective Courses

Students complete a minimum of 12 units of taxation elective courses.

## Graduation Writing Assessment Requirement

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For the MST Program, the required writing course is BUS 223A.

Students must pass the Graduation Writing Assessment Requirement (GWAR).

## **Culminating Experience**

The culminating experience is a comprehensive individual written project incorporated into the capstone course, BUS 223H - Tax Policy Capstone. An oral examination may be included.

## **Maintenance of 3.0 GPA**

Students must maintain a grade point average of 3.0 or better on all graduate-level course work. Students who receive grades of "C-", "D", "F", or "U" in any business graduate course must repeat that course to achieve a grade of "C" or better.

## **Transfer Credit**

Subject to approval of the MST Program Director, students may transfer a maximum of nine semester units of business graduate course work from another accredited institution to be applied to advanced level course work requirements. Grades in the transfer courses must be "B" or better. MST courses taken via "Open University" are treated as transferred into the MST Program (and thus count toward the maximum of nine semester units of transferable course work).

## **Other University Requirements**

Students must comply with all other graduate requirements contained in this catalog.

## **Requirements for Advancement to Graduate Candidacy**

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MST degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR).

## **Special Session Program Information**

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

### **Masters Requirements (30 units)**

### **Required Core (15 units)**



- BUS 223A - Tax Research and Decision Making 3 *unit(s)* (GWAR)
- BUS 223F - Tax Accounting Methods/Periods 3 *unit(s)*
- BUS 223G - Taxation of Business Entities 3 *unit(s)*

### Business Entities (3 units)

Choose one of the following courses in consultation with graduate advisor:

- BUS 223B - Taxation of Partnerships 3 *unit(s)*
- BUS 225B - Taxation of Corporate Reorganizations 3 *unit(s)*
- BUS 225G - Taxation of S Corporations 3 *unit(s)*
- BUS 225S - Consolidated Returns 3 *unit(s)*

### Multijurisdictional Taxation (3 units)

Choose one of the following courses in consultation with graduate advisor:

- BUS 225C - International Tax - US Corporations with Foreign Activities 3 *unit(s)*
- BUS 225D - International Tax - Individuals and Foreign Corporations 3 *unit(s)*
- BUS 225F - State Taxation Fundamentals 3 *unit(s)*
- BUS 225M - State Tax Planning 3 *unit(s)*
- BUS 225P - Advanced International Tax - US Corporations 3 *unit(s)*
- BUS 225U - Fundamentals of Transfer Pricing 3 *unit(s)*
- BUS 225W - Introduction to International Taxation 3 *unit(s)*
- BUS 225X - International Taxation - US and Foreign Individuals 3 *unit(s)*

### Electives (12 units)

Complete 12 units from:

- BUS 223B - Taxation of Partnerships 3 *unit(s)*
- BUS 225A - Taxation of Estates and Trusts 3 *unit(s)*
- BUS 225B - Taxation of Corporate Reorganizations 3 *unit(s)*
- BUS 225C - International Tax - US Corporations with Foreign Activities 3 *unit(s)*
- BUS 225D - International Tax - Individuals and Foreign Corporations 3 *unit(s)*
- BUS 225F - State Taxation Fundamentals 3 *unit(s)*
- BUS 225G - Taxation of S Corporations 3 *unit(s)*
- BUS 225H - Taxation of Property Transactions 3 *unit(s)*
- BUS 225I - Tax Practices, Penalties and Procedures 3 *unit(s)*
- BUS 225J - Taxation of Executive Compensation 3 *unit(s)*
- BUS 225K - Advanced Individual Taxes 3 *unit(s)*
- BUS 225L - Accounting for Income Taxes 3 *unit(s)*
- BUS 225M - State Tax Planning 3 *unit(s)*
- BUS 225N - Financing Options - New or Growing Bus 3 *unit(s)*
- BUS 225O - Taxation of Tax Exempt Organizations 3 *unit(s)*
- BUS 225P - Advanced International Tax - US Corporations 3 *unit(s)*
- BUS 225S - Consolidated Returns 3 *unit(s)*
- BUS 225T - Intermediate Acctg for Income Taxes 3 *unit(s)*

- BUS 225U - Fundamentals of Transfer Pricing 3 *unit(s)*
- BUS 225V - Tax Considerations for High Tech Companies 3 *unit(s)*
- BUS 225W - Introduction to International Taxation 3 *unit(s)*
- BUS 225X - International Taxation - US and Foreign Individuals 3 *unit(s)*
- BUS 225Y - Accounting Ethics 3 *unit(s)* (*Note: Course counts as accounting ethics class required to become a CPA in 2017 or later.*)
- BUS 227A - Individual Tax Compliance 1 *unit(s)*
- BUS 227B - Ethics for Tax Practitioners 1 *unit(s)* (*Note: Course counts towards the required ethics courses to become a CPA in California*)
- BUS 227C - Tax Symposium 1 *unit(s)* (*Note: Topic changes each time offered; may be taken more than once.*)
- BUS 227D - Employment Taxation and the Modern Workforce 1 *unit(s)*
- BUS 227E - Foundation for Understanding Taxation 1 *unit(s)*
- BUS 227F - Personal and Business Leadership Skills for Tax Practitioners 2 *unit(s)* (*Note: Course counts towards the required ethics courses to become a CPA in California*)
- BUS 298 - Master's Project 3 *unit(s)* (1-6 units required)

## Culminating Experience (3 units)

### Plan B (Project)

- BUS 223H - Tax Policy Capstone 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the graduate advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

# Transportation Management, MS

The Master of Science in Transportation Management (MSTM) is a fully accredited, 30-unit program that takes two and half or three years to complete as a part-time student. The curriculum consists of six required courses, two electives, and a two-course culminating capstone experience.

The curriculum is led by nationally recognized instructors who are academic or industry experts. The MSTM is fully accredited by the Association to Advance Collegiate Schools of Business (AACSB). Classes are held on weekday evenings, allowing students to work full time while earning their degrees. Students generally take one course at a time, one night per week, for each ten-class session, for a total of four classes per year. Classes are delivered by two-way video conferencing, supplemented by web coursework. Students attend class in-person at locations throughout California or via online video-conferencing.

# Admission Requirements

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Special Session MS, Transportation Management degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Admission to the Department

Applicants who meet university and program requirements will be considered for classified admission. Admission to the Special Session MS, Transportation Management degree program requires the following (more details about these requirements are provided at the "Admissions" tab from <http://transweb.sjsu.edu/education/graduate>):

1. A bachelor's degree from an accredited university in the U.S. or the equivalent of a U.S. bachelor's degree earned from a recognized institution if the degree was earned outside of the U.S.
2. A preferred 3.0 (on a 4.0 scale) grade point average (GPA) in the last 60 semester units or 90 quarter units of study. An absolute minimum GPA of 2.5 is required for graduate admission at SJSU. Four-year undergraduate degree from an accredited institution, with a minimum 3.0 GPA for the last 60 units preferred.
3. Graduate Management Admission Test (GMAT) or the Graduate Record Examination (GRE) exam scores. Scores at the 50th percentile in both the quantitative and verbal sections of the exam are considered competitive. Conditional on the approval of the MSTM Program Director, the GMAT/GRE score requirement may be waived if the applicant has an interview with the MSTM Program Director and meets at least one of the following conditions:
  - o Earned a master's degree or Ph.D. in the United States from an accredited institution.
  - o Has at least five years of relevant full-time professional work experience in the transportation sector or a related field.
  - o Graduated with honors from the Lucas College of Business Gary J. Sbona Honors Program within the last five years.
4. A statement of purpose explaining how a Master of Science in Transportation Management will help you to achieve your career objectives (500 to 800 words).
5. A resume detailing your professional and academic experiences.
6. A letter of recommendation written by a supervisor who managed you in paid or volunteer work or by a university instructor who taught you. Letters should include an evaluation of your writing and analysis skills.
7. For students who did not earn a 4-year bachelor's degree, master's degree, or Ph.D. from an institution in which the principal language of instruction was English: Scores from an English language proficiency examination. The university minimum entrance score for the TOEFL is 213 (computer-based) or 80 (internet-based). The minimum score required on the IELTS is 6.5, and the minimum PTE score is 53.

## Admission in Conditionally Classified Standing

Applicants not accepted into classified standing may qualify for conditionally classified status. The individual admission notification will explain required coursework, terms and conditions for removing deficiencies and attaining classified standing.

## Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MS - Transportation Management. In order to achieve candidacy, students must meet the university requirements for candidacy. General

university requirements for advancement to candidacy for the master's degree are detailed in the Graduate Policies and Procedures section. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Student disqualified from the MSTM program must follow the Disqualification and Probation - Graduate Students procedures in the SJSU catalog. It is the policy of the Donald and Sally Lucas Graduate School of Business not to readmit disqualified graduate students after a second disqualification.

## Transfer Credit

With approval of the MSTM Program Director, the Donald and Sally Lucas Graduate School of Business Associate Dean for Graduate Programs, and the SJSU Associate Vice President for Graduate Studies and Research, students may transfer a maximum of six units of related graduate course work from another accredited university in the United States to satisfy elective course requirements. Grades in the transfer courses must be "B" or better. Extension course work from other institutions is not acceptable.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see <http://info.sjsu.edu/gcw.html>.

*MTM 201 serves as the GWAR requirement for this program.*

## Culminating Experience

### Plan B (Project)

The program culminating experience is incorporated into MTM 283 and MTM 290. Students use these courses to design and then carry out an individual, comprehensive project.

### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

## Masters Requirements (30 units)

## Required Core (18 units)

- MTM 201 - Transportation Systems and Society 3 *unit(s)* (GWAR)
- MTM 202 - Introduction to Transportation Funding & Finance 3 *unit(s)*
- MTM 203 - Transportation Marketing and Communications Management 3 *unit(s)*
- MTM 214 - Transportation Policy and Regulation 3 *unit(s)*
- MTM 215 - Transportation Planning and Project Development 3 *unit(s)*
- MTM 217 - Leadership and Management of Transportation Organizations 3 *unit(s)*

## Electives (6 units)

Complete two courses from:

- MTM 226A - Emergency Management Issues for Transportation Professionals 3 *unit(s)*
- MTM 226B - Security Issues for Transportation Professionals 3 *unit(s)*
- MTM 230 - Multi Modal Transportation in CA 3 *unit(s)*
- MTM 236 - Managing Technology Innovations in Transportation 3 *unit(s)*
- MTM 245 - High-Speed and Intercity Rail: Planning & Design 3 *unit(s)*
- MTM 246 - High-Speed & Intercity Rail Operations/Engineering 3 *unit(s)*
- MTM 250 - Transportation and the Environment 3 *unit(s)*
- MTM 260 - Project Management in Transportation 3 *unit(s)*

## Culminating Experience (6 units)

### Plan B (Project)

- MTM 283 - MSTM Capstone - Project Design 3 *unit(s)*
- MTM 290 - MSTM Capstone - Evaluation Report 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the MSTM Program Director. With prior approval from the Program Director, students may count towards the elective requirement one graduate or upper-division undergraduate course (3 units) from another SJSU program.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

Students must comply with all other graduate requirements contained in this catalog.

## Certificate

### Accounting Fundamentals Certificate (Graduate)

The Accounting Fundamentals Certificate is an intensive program providing a broad foundation of concepts and practices in financial reporting, managerial accounting, accounting information systems and corporate taxation. Over the course of one semester, it covers essential topics needed both for a career in accounting and for graduate study. The program is taught in its entirety during the summer, with each course taught in either two- or five-week sessions. The program is designed for both non-matriculated students and those satisfying entrance requirements for both the MS in Accountancy program. As this certificate is comprised of fundamental accounting knowledge and skills, students entering MSA program without an undergraduate degree in accounting will be required to complete this certificate before enrolling in MSA classes.

### Certificate Requirements (15 units)

- BUS 220B - Financial Reporting and Analysis I *3 unit(s)*
- BUS 220C - Accounting Information Systems I *3 unit(s)*
- BUS 220E - Financial Reporting and Analysis II *3 unit(s)*
- BUS 220F - Management Accounting and Control Systems *3 unit(s)*
- BUS 220P - Taxation of Individuals and Flow-Through Entities *3 unit(s)*

Total Units Required (15 units)

### Advanced Accounting Topics Certificate (Graduate)

The Advanced Accounting Topics Certificate provides in-depth study of topics useful for CPA exam preparation and a career in accounting. It supplements coursework in the Certificate in Accounting Fundamentals and in the MSA program with advanced issues and topics relevant for a career in accounting. Specialized issues covered in the certificate program deepen understanding of accounting practice, broaden career preparation and better equip students for the CPA examination.

### Certificate Requirements (12 units)

Complete 12 units from:

- BUS 220S - Financial Reporting and Analysis III *3 unit(s)*
- BUS 220L - Legal and Ethical Environment of Accounting Practice *3 unit(s)*
- BUS 220H - Auditing: Concepts/Practice *3 unit(s)*
- BUS 220U - IT Audit & Internal Controls *3 unit(s)*
- BUS 220I - Forensic Accounting *3 unit(s)*
- BUS 220V - Special Topics in Accounting *3 unit(s)*
- BUS 220X - Business Analysis and Valuation Using Financial Statements *3 unit(s)*
- BUS 220M - Accounting Ethics *3 unit(s)*
- BUS 220A - Financial Statement Analysis for Accountants *3 unit(s)*

Total Units Required (12 units)

### Advanced Global Leadership Certificate (Graduate)

The Advanced Global Leadership Certificate is a focused program designed for those who want to develop their global leadership skills and embark upon a career that will involve global work. This skill set has become a highly

valued commodity in an environment that is growing increasingly globalized, but lags in the human capital necessary to succeed in this new environment.

## Certificate Requirements (9 units)

- BUS 262A - Global Leadership and Innovation 3 *unit(s)*
- BUS 262B - Global Leadership Development 3 *unit(s)*
- BUS 268 - Managing Across Cultures 3 *unit(s)*

Total Units Required (9 units)

## Advanced Taxation Certificate (Graduate)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

## Certificate Requirements (9 units)

Complete three courses from below in consultation with MST program director.

*Any course listed for the International or High Technology Taxation Certificates.*

- BUS 225A - Taxation of Estates and Trusts 3 *unit(s)*
- BUS 225G - Taxation of S Corporations 3 *unit(s)*
- BUS 225I - Tax Practices, Penalties and Procedures 3 *unit(s)*
- BUS 225K - Advanced Individual Taxes 3 *unit(s)*
- BUS 225O - Taxation of Tax Exempt Organizations 3 *unit(s)*

Total Units Required (9 units)

## Business Analytics Certificate (Graduate)

The Business Analytics Certificate is an intensive program, designed for business professionals and graduate students who want to transform terabytes of data into useful and timely business intelligence that will be used to develop knowledge-driven business decisions, whether the practitioner's functional area is marketing, operations, finance, strategy, international business or human resources.

## Certificate Requirements (12 units)

- BUS 235A - Introduction to Business Analytics 3 *unit(s)*
- BUS 235B - Business Research 3 *unit(s)*
- BUS 235C - Data Mining for Business Analytics 3 *unit(s)*
- BUS 235D - Business Analytics Simulation 3 *unit(s)*

## Total Units Required (12 units)

### High Technology Taxation Certificate (Graduate)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

#### Certificate Requirements (9 units)

Complete three courses from below in consultation with MST program director.

*Any course listed for the International Taxation Certificate.*

- BUS 223B - Taxation of Partnerships 3 unit(s)
- BUS 225B - Taxation of Corporate Reorganizations 3 unit(s)
- BUS 225J - Taxation of Executive Compensation 3 unit(s)
- BUS 225M - State Tax Planning 3 unit(s)
- BUS 225N - Financing Options - New or Growing Bus 3 unit(s)
- BUS 225S - Consolidated Returns 3 unit(s)
- BUS 225T - Intermediate Acctg for Income Taxes 3 unit(s)
- BUS 225V - Tax Considerations for High Tech Companies 3 unit(s)
- BUS 227C - Tax Symposium 1 unit(s) (3 units required)
- BUS 227D - Employment Taxation and the Modern Workforce 1 unit(s) (3 units required)

## Total Units Required (9 units)

### High-Speed and Intercity Rail Management Certificate (Graduate)

The Certificate in High-Speed and Intercity Rail Management offers graduate study in transportation management, with specialized courses on managing high-speed and intercity rail systems, from planning and design to engineering and operations. The certificate is intended primarily for professionals working in the fields of public transportation or rail who wish to enhance their qualifications for advancement and promotion, or to provide opportunities for professionals from related fields to move into rail management. The program enables students to earn 9 graduate units of course credit that may later be applied to the Master of Transportation Management (MSTM) program.

#### Certificate Requirements (12 units)

- MTM 245 - High-Speed and Intercity Rail: Planning & Design 3 unit(s)
- MTM 246 - High-Speed & Intercity Rail Operations/Engineering 3 unit(s)

#### Complete Two Courses From:

- MTM 201 - Transportation Systems and Society 3 unit(s) (GWAR)



- MTM 202 - Introduction to Transportation Funding & Finance *3 unit(s)*
- MTM 203 - Transportation Marketing and Communications Management *3 unit(s)*
- MTM 214 - Transportation Policy and Regulation *3 unit(s)*
- MTM 215 - Transportation Planning and Project Development *3 unit(s)*
- MTM 217 - Leadership and Management of Transportation Organizations *3 unit(s)*

Total Units Required (12 units)

## International Taxation Certificate (Graduate)

The advanced certificates in taxation provide in-depth study of topics to help a tax practitioner advance in his/her career or develop a specialization. The coursework supplements prior graduate study in the tax area, in essence, serving as a post-Master's program.

Certificate Requirements (9 units)

Complete three courses from below in consultation with MST program director.

- BUS 225C - International Tax - US Corporations with Foreign Activities *3 unit(s)*
- BUS 225D - International Tax - Individuals and Foreign Corporations *3 unit(s)*
- BUS 225P - Advanced International Tax - US Corporations *3 unit(s)*
- BUS 225U - Fundamentals of Transfer Pricing *3 unit(s)*
- BUS 225X - International Taxation - US and Foreign Individuals *3 unit(s)*
- BUS 227C - Tax Symposium *1 unit(s) (3 units required)*

Total Units Required (9 units)

## Tax Practice Certificate (Graduate)

The Certificate in Tax Practice provides nine units of graduate level tax research and tax foundation skills and knowledge to students who already have either an undergraduate or graduate degree in accounting. This certificate can also assist someone seeking nine units to help meet the required 150 units to become a CPA. It can help with career advancement and passing the CPA examination. The nine units can be applied to the MST program (if within the required time limits for degree completion).

Certificate Requirements (9 units)

- BUS 223A - Tax Research and Decision Making *3 unit(s) (GWAR)*

Complete Six Units From:

- BUS 223F - Tax Accounting Methods/Periods *3 unit(s)*
- BUS 223G - Taxation of Business Entities *3 unit(s)*
- BUS 225E - Data Analytics and Security *3 unit(s)*
- BUS 225F - State Taxation Fundamentals *3 unit(s)*
- BUS 225H - Taxation of Property Transactions *3 unit(s)*

- BUS 225L - Accounting for Income Taxes 3 *unit(s)*
- BUS 225W - Introduction to International Taxation 3 *unit(s)*
- BUS 227A - Individual Tax Compliance 1 *unit(s)* (3 *units required*)
- BUS 227B - Ethics for Tax Practitioners 1 *unit(s)* (3 *units required*)
- BUS 227C - Tax Symposium 1 *unit(s)* (3 *units required*)
- BUS 227D - Employment Taxation and the Modern Workforce 1 *unit(s)* (3 *units required*)
- BUS 227E - Foundation for Understanding Taxation 1 *unit(s)* (3 *units required*)
- BUS 227F - Personal and Business Leadership Skills for Tax Practitioners 2 *unit(s)*

## Total Units Required (9 units)

Conditional on the approval of the program director, a student may select one other BUS elective course to substitute one of the elective courses listed above.

## Transportation Management Certificate (Graduate)

The Certificate in Transportation Management provides an introduction to the graduate study of transportation management. It is intended primarily for professionals working in the field of public transportation who wish to enhance their qualifications for advancement and promotion in their existing agency, or to provide opportunities to advance at other agencies. The program enables students to earn 9 units of course credit that may later be applied to the Master of Transportation Management (MSTM) program.

## Certificate Requirements (12 units)

Complete 12 units (or four courses) from:

- MTM 201 - Transportation Systems and Society 3 *unit(s)* (GWAR)
- MTM 202 - Introduction to Transportation Funding & Finance 3 *unit(s)*
- MTM 203 - Transportation Marketing and Communications Management 3 *unit(s)*
- MTM 214 - Transportation Policy and Regulation 3 *unit(s)*
- MTM 215 - Transportation Planning and Project Development 3 *unit(s)*
- MTM 217 - Leadership and Management of Transportation Organizations 3 *unit(s)*
- MTM 236 - Managing Technology Innovations in Transportation 3 *unit(s)*
- MTM 250 - Transportation and the Environment 3 *unit(s)*

## Total Units Required (12 units)

## Transportation Security Management Certificate (Graduate)

The Certificate in Transportation Security Management provides both an introduction to the graduate study of transportation management and more specialized knowledge concerning transportation security. It is intended primarily for professionals working in the field of transportation who wish to enhance their qualifications for advancement and promotion in their existing agency, or to provide opportunities to advance at other agencies. The program enables students to earn 9 units of course credit that may later be applied to the Master of Transportation Management (MSTM) program. Additionally, students who complete the transportation security sequence for this

certificate become eligible to earn independent certification in National Incident Management System (NIMS) and the State Emergency Management System (SEMS).

## Certificate Requirements (12 units)

- MTM 226A - Emergency Management Issues for Transportation Professionals 3 *unit(s)*
- MTM 226B - Security Issues for Transportation Professionals 3 *unit(s)*

## Complete Two Courses From:

- MTM 201 - Transportation Systems and Society 3 *unit(s)* (GWAR)
- MTM 202 - Introduction to Transportation Funding & Finance 3 *unit(s)*
- MTM 203 - Transportation Marketing and Communications Management 3 *unit(s)*
- MTM 214 - Transportation Policy and Regulation 3 *unit(s)*
- MTM 215 - Transportation Planning and Project Development 3 *unit(s)*
- MTM 217 - Leadership and Management of Transportation Organizations 3 *unit(s)*

## Total Units Required (12 units)

### *BUS 200 - Business, Economics and Society*

3 *unit(s)*

Emphasizes the relationship between the micro and macro economic environment and thoughtful managerial decision-making. Examines various theories and techniques that underlie the market economy. Costs and benefits of various governmental policies are investigated in a historical context.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

### *BUS 200L - Leadership Communication*

2 *unit(s)*

Hands-on course designed to simulate business communication scenarios encountered by professionals. Students will practice and apply both practical and theoretical aspects of organizational communication, including mechanics, style, and appropriateness of messages and methods based on specific organizational situations.

**Prerequisite(s):** Graduate Standing.

**Grading:** Graded

### *BUS 200W - Business Research and Communications*

3 *unit(s)*

Using a case approach, students will learn about communication within the business world, with the intention that they will practice interpersonal, team, and presentation skills that are expected of effective managers.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BUS 201 - Business Communications*

1 unit(s)

This business communications course develops students' written and oral communication skills, emphasizing clear, concise and coherent articulation via a multitude of channels: e-mails, memos, cover letters, resumes, presentations, reports, etc. The course enables students to continue practicing effective communication in all aspects of their academic and professional careers.

**Grading:** Graded

*BUS 202 - Managing in the Global Economy*

3 unit(s)

This course investigates the world economy, including how markets, institutions and organizations vary from country to country, and how global competition, climate change, digital and emerging economics, and shifting from manufacturing to a service economy affect management practice.

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

*BUS 203 - International Experience for American Executives*

3 unit(s)

An intensive one-week program at one of the nine EMBA Consortium partner schools with opportunities to collaborate with classmates from around the globe. Develop your global business acumen while learning about the unique culture and business practices of the region you visit. The course consists of classroom work, company visits, and cultural experiences.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*BUS 210 - Developing and Managing People*

3 unit(s)

Based on the philosophy that increased self-awareness and effective self-management leads to more effective management of others, uses experientially focused, integrating models, principles, and activities.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BUS 211 - Orientation and Behavioral Workshop*

1 unit(s)

The course provides graduate business students with frameworks, processes and methods to improve their opportunity for success in a rigorous, accelerated graduate business program format. Students are introduced to key

concepts in business communication and etiquette, case study methodology, and business strategy. This overview includes the opportunity to apply key concepts in a team format and discuss their strategic, behavioral and career implications

**Grading:** Credit/No Credit

*BUS 220 - Financial and Managerial Accounting*

3 unit(s)

Introduces students to financial and managerial use of accounting information systems and concepts, including the sources, uses and limitations of accounting information as used by investors outside the firm and by managers within the firm.

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

*BUS 220A - Financial Statement Analysis for Accountants*

3 unit(s)

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand business knowledge from an accounting perspective.

**Prerequisite(s):** MSA Classified Standing.

**Grading:** Graded

*BUS 220B - Financial Reporting and Analysis I*

3 unit(s)

Principles, control and theory of accounting for assets; correction of prior year's earnings; measurement and determination of income.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220C - Accounting Information Systems I*

3 unit(s)

Will provide conceptual framework concerning contemporary accounting information systems including: database concepts, internal control, use of systems technology, applications, management, systems analysis/design and auditing.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220D - Financial Analysis and Markets*

3 unit(s)

Provides an overview of the required skills and the environment appropriate to the financial and economic decision-making function of the firm. The integrated approach of this course is designed to identify and analytically evaluate those internal and external variables which contribute to economic and financial decisions. Strategies of financial management in practical settings, application of concepts and analytical tools.

**Prerequisite(s):** MSA classified standing.  
**Grading:** Graded

*BUS 220E - Financial Reporting and Analysis II*

3 unit(s)

Continuation of Financial Reporting and Analysis I. Principles, controls, and theory of accounting for liabilities and equities; preparation, utilization, and analysis of cash flow statements; financial ratios and statistical analysis of financial statements accounting data.

**Prerequisite(s):** MSA classified standing.  
**Grading:** Graded

*BUS 220F - Management Accounting and Control Systems*

3 unit(s)

Provides the student techniques with an overview of the concepts and procedures of cost accounting relevant to managerial decision-making. Emphasizes planning and control, inventory valuation and income determination, and performance measurement.

**Prerequisite(s):** MSA classified standing.  
**Grading:** Graded

*BUS 220G - Tax Factors of Business and Investment Decisions: Theory and Practice*

3 unit(s)

Introduces essentials of tax research methodology, focusing on taxation of corporations and shareholders. Includes taxation of property transactions, deferral techniques, accounting periods, and accounting methods.

**Prerequisite(s):** MSA classified standing.  
**Grading:** Graded

*BUS 220H - Auditing: Concepts/Practice*

3 unit(s)

Discusses the public accounting profession and its socio-economic role; auditing techniques with an emphasis on EDP environment; audit procedures, practice and programs; working paper preparation; unqualified and qualified report writing.

**Prerequisite(s):** MSA classified standing. Graduate Standing only.  
**Grading:** Graded

*BUS 220I - Forensic Accounting*

3 unit(s)

Course will examine the frauds perpetrated on companies and methods of discovery. The criminal justice system will be reviewed and litigation support services provided by accountants to attorneys, including damage computations and testifying techniques and skills will be covered.

**Grading:** Graded

*BUS 220J - Business Communications & Ethics*

3 unit(s)

Emphasizes communication effectiveness and skill building for influencing and guiding people. Includes fundamental skill building in researching, organizing and writing reports, making persuasive presentations that are sensitive to the needs and requirements of clients, peers and managers.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BUS 220K - Accounting Practicum*

3 unit(s)

The Accounting Practicum is an internship with an accounting firm or corporate finance group. This provides opportunities to apply program content to real-world environments, gain appreciation of work expectations and demands, and relate field experience to remaining program curriculum.

**Prerequisite(s):** MSA classified standing.

**Grading:** Credit/No Credit

*BUS 220L - Legal and Ethical Environment of Accounting Practice*

3 unit(s)

Emphasizes knowledge in the areas of the Law of Contracts and selected portions of the Uniform Commercial Code: Sales of Goods; Commercial Paper and other Negotiable Instruments; and Secured Transactions.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220M - Accounting Ethics*

3 unit(s)

Examines professional ethical standards for accountants. Focuses on professional codes of conduct and workplace decisions for professionals in the fields of auditing, managerial accounting and taxation.

**Prerequisite(s):** BUS 220H, Graduate Standing only.

**Grading:** Graded

*BUS 220N - Management of Organizations and Projects*

3 unit(s)

Examines the integrative role of the general manager as a strategist responsible for leading and managing multi-functional projects and develop skills related to leadership, planning, decision-making, motivating, scheduling and shaping organizational team culture by making extensive use of team building exercises/cases.

**Prerequisite(s):** MSA Classified Standing.

**Grading:** Graded

*BUS 220P - Taxation of Individuals and Flow-Through Entities*

3 unit(s)

Taxation of individuals and pass-through entities (partnerships, LLCs, S corporations, estates and trusts) with emphasis on unique rules and factors in the Internal Revenue Code and Treasury Regulations.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220R - Software Applications for Accounting*

3 unit(s)

Creation, internal controls, evaluation and audit of advanced electronic spreadsheets. Students learn to use complex queries to extract information from databases.

**Prerequisite(s):** BUS 220C or equivalent

**Grading:** Graded

*BUS 220S - Financial Reporting and Analysis III*

3 unit(s)

Accounting for multi-unit operations: consolidated reporting issues, transfer pricing issues, globalization issues (foreign tax structures, organizational forms and international accounting), translation of foreign currency transactions and operations, hedging foreign currency exposures, goodwill and brief exposure to business combinations.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220T - Accounting Information/Tax*

6 unit(s)

Builds project-oriented AIS skills in evaluation of performance/internal controls of accounting systems. Development of prototype accounting systems using computer tools. Deepens knowledge of property transactions, sales and use taxes, tax practice, tax penalties and tax procedures.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220U - IT Audit & Internal Controls*

3 unit(s)

The course provides an understanding of the types of risk that arise in computer environments and consider the impact these risk and threats have on the audit by examining computer-assisted audit tools and techniques.

**Prerequisite(s):** MSA Classified Standing.

**Grading:** Graded

*BUS 220V - Special Topics in Accounting*

3 unit(s)

Current special topics in accounting including an understanding of the financial accounting policies and procedures followed by state, county, and municipal governments, universities, and other non-profits for accounting and



budgeting of the receipt and expenditure of tax and related revenues.

**Prerequisite(s):** MSA Classified Standing.

**Grading:** Graded

*BUS 220X - Business Analysis and Valuation Using Financial Statements*

3 unit(s)

Development of Accounting based valuation framework that integrates a firm's strategy, accounting performance, and value; assessing a firm's value proposition and identifying key value drivers and risks; evaluating degree to which a firm's accounting policies capture the underlying business reality.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220Y - Professional Communications and Relationships III*

3 unit(s)

Skill development in converting critique into meaningful and important information to improve professional performance; integration of professional skills; personal style with effective communication skills to prepare the student for transition to professional in the further development of their careers.

**Prerequisite(s):** MSA classified standing.

**Grading:** Graded

*BUS 220Z - Data Analytics for Accounting*

3 unit(s)

Basic principles and practices of data analytics as applied to accounting.

**Prerequisite(s):** Graduate standing in MS Accountancy program

**Grading:** Graded

*BUS 222 - Profit Planning and Control*

3 unit(s)

Course covers how financial planning and control systems operate, and are used to deploy strategy, align interests, improve operations, and facilitate strategic change, maximizing firm value. Includes disciplined processes of decision-making, resource allocation, performance measurement to link strategy, management action, and shareholder accountability.

**Prerequisite(s):** BUS 220 and graduate standing.

**Grading:** Graded

*BUS 223A - Tax Research and Decision Making*

3 unit(s)

Develops basics for tax research and evaluates the interrelationships of statutes, regulations, rulings and court cases. Identifies tax services and other primary research materials with emphasis on their use in tax decision-making. Emphasizing critical thinking and communication skills.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing.  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BUS 223B - Taxation of Partnerships*

3 unit(s)

Income tax treatment of partners and partnerships and LLCs, including the creation, operation, liquidation and sale or other amalgamation of organizations. Special allocation and non-recourse debt arrangements are also covered.

**Prerequisite(s):** BUS 223A and BUS 223G  
**Grading:** Graded

*BUS 223D - Seminar in Tax Planning and Practice*

3 unit(s)

Capstone course for the MS in Taxation degree. Will integrate financial planning throughout the program, including sale of the business and estate planning, and will include a final written comprehensive project.

**Prerequisite(s):** Graduate standing and completion of at least 3 tax core courses.  
**Grading:** Graded

**Note(s):** Completion of the course or BUS 223E satisfies the MST comprehensive project requirement.

*BUS 223F - Tax Accounting Methods/Periods*

3 unit(s)

Definition and importance of accounting methods and periods; timing rules for income, expenditures, inventory and R&D; change procedures; special methods; book-tax differences; introduction to provision for income taxes.

**Pre/Corequisite(s):** BUS 223A  
**Grading:** Graded

*BUS 223G - Taxation of Business Entities*

3 unit(s)

Income tax treatment of different types of business entities and their owners. Focuses on operations, reporting, formation, restructuring and termination. Selected special state and international tax rules, tax planning, and underlying tax policies also covered.

**Corequisite(s):** BUS 223A  
**Grading:** Graded

*BUS 223H - Tax Policy Capstone*

3 unit(s)

Capstone course that examines the principles and policies that underlie and shape tax systems and rules. Students gain a broader perspective of the tax law beyond its technical application, and learn how tax, economic, social and environmental policies interact.

**Prerequisite(s):** BUS 223A, BUS 223F, BUS 223G

**Grading:** Graded

*BUS 224 - Financial Statement Analysis*

3 unit(s)

Course develops the ability to understand, interpret, and analyze financial information, and examines the relationship between financial statement information and the capital markets. Students develop financial analysis skills, and expand perspectives of business and professional roles.

**Prerequisite(s):** BUS 220 and graduate standing.

**Grading:** Graded

*BUS 225A - Taxation of Estates and Trusts*

3 unit(s)

Excise and transfer tax treatment of estates, gifts, trusts, creators, beneficiaries and fiduciaries. Distinguishes between revocable and irrevocable trusts, including proper trusts to achieve desired goals. Reviews taxation of asset sales and dissolution or liquidation of estates or trusts. Analyzes estate evaluation, family limited partnerships, grats, GST, and planning opportunities.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225B - Taxation of Corporate Reorganizations*

3 unit(s)

Income tax treatment of corporate reorganizations and amalgamations, including acquisitions, tax-free and taxable as well as corporate division. Tax treatment of net operating losses, earnings and profits, property basis and other corporate attributes.

**Prerequisite(s):** BUS 223A and BUS 223G

**Grading:** Graded

*BUS 225C - International Tax - US Corporations with Foreign Activities*

3 unit(s)

Taxation of outbound investment and activities of the US corporations. Topics include sourcing, foreign tax credit, subpart F, Sections 482 and 367, foreign currency, establishing foreign operations, state taxation of outbound operations, and issues affecting expanding US multinational technology firms.

**Prerequisite(s):** BUS 223G and BUS 225W

**Grading:** Graded

*BUS 225D - International Tax - Individuals and Foreign Corporations*

3 unit(s)

Taxation of individuals with foreign activities, and inbound investment and activities of foreign corporations. Topics include taxation of US expatriates and foreign nationals, foreign tax credit, tax treaties, foreign-owned US real estate, and issues of mobile employees.

**Prerequisite(s):** BUS 223G and BUS 225W

**Grading:** Graded

*BUS 225E - Data Analytics and Security*

3 unit(s)

Understanding and hands-on practice of identifying and using data for tax and accounting applications, when and how to use, practice with key tools. Understand security issues in tax work and practices and tools for avoiding problems.

**Prerequisite(s):** MST Graduate Standing

**Grading:** Graded

*BUS 225F - State Taxation Fundamentals*

3 unit(s)

Introduction to the legal foundation, nature and operation of key state and local taxes. Constitutional constraints regarding nexus, sourcing and apportionment are covered. Additional topics include research techniques, compliance and planning considerations, current issues and state tax reform.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225G - Taxation of S Corporations*

3 unit(s)

Topics include: Income tax treatment of S Corporations and their shareholders, built-in gains tax and excess net passive income tax; operating and distribution rules, shareholders basis, NOL pass-through rules; formation, reorganizations, QSUBS, and state income tax consequences.

**Prerequisite(s):** BUS 223A and BUS 223G

**Grading:** Graded

*BUS 225H - Taxation of Property Transactions*

3 unit(s)

Key rules and planning considerations of property development, transfer, lease, abandonment, worthlessness, and destruction; depreciation and amortization; special types of intangibles and relevant tax rules; property indebtedness; sale of a business; tax-deferred transactions; sale of a principal residence; and basics of non-income taxes applicable to property and property transactions.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225I - Tax Practices, Penalties and Procedures*

3 unit(s)

Procedures applicable to filing returns, amended returns and claims for refund. Also covers key procedural matters governing examinations, appeals, and adjudication of disputes. Relevant penalty provisions and rules of conduct are also examined. While the focus is on federal rules, key procedural differences in California law are also covered.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225J - Taxation of Executive Compensation*

3 unit(s)

Tax aspects of executive compensation includes qualified and nonqualified stock options, deferred compensation, fringe benefits, 401(K), 403(B), pension and profit sharing plans, rabbi trusts, etc.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225K - Advanced Individual Taxes*

3 unit(s)

Course includes interest tracing, passive activity losses, net operating losses, divorce, AMT's impact on individuals and individual California income taxes.

**Pre/Corequisite(s):** BUS 223A, Graduate Standing only.

**Grading:** Graded

*BUS 225L - Accounting for Income Taxes*

3 unit(s)

Financial accounting rules regarding the calculation and presentation of a company's provision for income taxes.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 225M - State Tax Planning*

3 unit(s)

Tax planning considerations are covered for multistate and single state businesses for key state taxes. Tax effects of location of property, payroll and sales are covered along with state tax incentives and dealing with incomplete guidance.

**Prerequisite(s):** BUS 223A and BUS 225F

**Grading:** Graded

*BUS 225N - Financing Options - New or Growing Bus*

3 unit(s)

Covers the fundamentals of various financing techniques for such businesses including equity, debt and "going public". Decision-making considerations, strategy, valuation and relevant security and tax laws are covered.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225O - Taxation of Tax Exempt Organizations*

3 unit(s)

Taxation of tax exempt organizations, including application of UBIT; investment in partnerships and S Corp.,

foundation, pension plans, VEBAS, form 990's.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225P - Advanced International Tax - US Corporations*

3 unit(s)

Advanced study of income tax treatment of international corporate transactions including international reorganizations and Section 367, Section 304 and corporate inversions. Planning for intangibles, subpart F planning, foreign entity structuring including use of check-the-box entities, foreign currency transactions, and foreign tax credit planning.

**Prerequisite(s):** BUS 223A and BUS 225C

**Grading:** Graded

*BUS 225Q - Tax Practicum*

3 unit(s)

Internship with an accounting firm or corporate tax department. Provides opportunities to apply program content to real-world environments, gain appreciation of work expectations and demands, and relate field experience to remaining program curriculum.

**Prerequisite(s):** BUS 223A and BUS 223G.

**Grading:** Credit / No Credit

*BUS 225S - Consolidated Returns*

3 unit(s)

Review and analysis of theory, rules and practice involving affiliated entities and filing of consolidated returns.

**Prerequisite(s):** BUS 223A and BUS 223G

**Grading:** Graded

*BUS 225T - Intermediate Acctg for Income Taxes*

3 unit(s)

Follow-up to BUS 225L, Accounting for Income Tax. Topics covered include IFRS-GAAP convergence, FAS 141R (Purchase accounting), International tax accounting (including APB 23, ARB 51, FAS 52), FAS 123R (advanced topics), State & Local considerations, FIN 48 and other relevant/current topics.

**Prerequisite(s):** BUS 225L

**Grading:** Graded

*BUS 225U - Fundamentals of Transfer Pricing*

3 unit(s)

Introduction to the fundamental principles of intercompany pricing, applications of transfer pricing methods to related party transactions under U.S. transfer pricing regulations and OECD Guidelines, and the economic analysis required for intercompany transactions of multinational corporations.

**Prerequisite(s):** BUS 223A and BUS 225W

**Grading:** Graded

*BUS 225V - Tax Considerations for High Tech Companies*

3 unit(s)

Explores the nature of high tech companies, special features, and why tax issues exist. In depth learning about tax incentives for innovation including the research credit, treatment of intangibles, stock options, multi-stage financing, multijurisdictional considerations, and book-tax differences.

**Prerequisite(s):** BUS 223A

**Grading:** Graded

*BUS 225W - Introduction to International Taxation*

3 unit(s)

Introduction to the structure, basic rules, and policies of the federal income tax system with respect to international transactions of US and foreign persons. Topics include residency, sourcing, tax treaties, foreign tax credit, transfer pricing, and compliance.

**Prerequisite(s):** BUS 223A

**Corequisite(s):** BUS 223G

**Grading:** Graded

*BUS 225X - International Taxation - US and Foreign Individuals*

3 unit(s)

Taxation of US and foreign individuals with investments and activities outside their home country. Topics include FTC, treaties, withholding taxes, US expatriates, foreign nationals, mobile employees, and compliance considerations, including US Bank Secrecy Act, FATCA and PFICs.

**Prerequisite(s):** BUS 223A and BUS 225W

**Grading:** Graded

*BUS 225Y - Accounting Ethics*

3 unit(s)

Covers professional responsibilities for accountants; meets CA licensure rules for a 3-unit accounting ethics course. Addresses CA statutory and regulatory ethics, AICPA rules of professional conduct, SSTS, and Circular 230, emphasizing compliance, history, process of change, and research.

**Grading:** Graded

*BUS 225Z - Personal & Business Leadership Skills for Tax Professionals*

3 unit(s)

Learn intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, conflict minimization, leadership behaviors, EQ, mindfulness, and career planning.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*BUS 227A - Individual Tax Compliance*

1 unit(s)

Basics of federal income tax compliance from information gathering to return filing. Includes practice preparing various individual forms and schedules, software tools, engagement letters, rules of conduct, disclosures, record keeping, key California adjustments, and completion of a moderately complex Form 1040.

**Corequisite(s):** BUS 223A.

**Grading:** Graded

*BUS 227B - Ethics for Tax Practitioners*

1 unit(s)

Review of rules of conduct, tax penalties and professional ethical behavior relevant to tax compliance and planning. Key rules applicable to a CPA are covered in the context of their application in the day-to-day work of a tax practitioner.

**Prerequisite(s):** Graduate Standing only.

**Corequisite(s):** BUS 223A.

**Grading:** Graded

*BUS 227C - Tax Symposium*

1 unit(s)

Tax symposium topics may vary from year to year to allow for focus on new developments or special tax topics. Check the MST schedule for the topic description.

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** BUS 223A.

**Grading:** Graded

*BUS 227D - Employment Taxation and the Modern Workforce*

1 unit(s)

An overview to the types of employment tax and related issues that can arise for companies and workers when employees telecommute or have multiple work locations. The basics of federal employment taxes are covered along with worker classification rules as well as selected state and international tax issues and rules relevant for today's workforce.

**Pre/Corequisite(s):** BUS 223A

**Grading:** Graded

*BUS 227E - Foundation for Understanding Taxation*

1 unit(s)

Legal foundation of taxes, types of taxes, and underlying theories, definitions and concepts. How to analyze transactions and activities for tax consequences. Helps strengthen one's overall understanding of taxation and application of analytical skills to resolving tax issues.

**Prerequisite(s):** Undergraduate tax course

**Grading:** Graded

*BUS 227F - Personal and Business Leadership Skills for Tax Practitioners*



2 unit(s)

Learn the intrapersonal and interpersonal skills and knowledge a tax practitioner needs for personal and professional success. Includes listening, oral and written communication, ethical reasoning, relationship and team building, establishment and assessment of accountability measures, time management, and career planning.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*BUS 230 - Marketing Management*

3 unit(s)

Fundamental concepts and skills required for understanding markets and managing marketing efforts. Includes market orientation, consumer and industrial buyer behavior, market segmentation, target market identification, product development, pricing, distribution channels, marketing communication, strategy development, and marketing planning and control.

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

*BUS 231 - Consumer and Market Behavior*

3 unit(s)

Influence of consumer behavior upon marketing management strategy; examination of behavioral concepts as they relate to purchase decisions; types of consumer research instructions and applications; focus on buyer behavior in action-oriented environments.

**Prerequisite(s):** BUS 230 and graduate standing.

**Grading:** Graded

*BUS 231A - Market Forecasting*

3 unit(s)

Course will help business people in understanding and identifying the appropriate forecasting methods in order to make a more accurate prediction of future demand.

**Prerequisite(s):** BUS 230, Business statistics and graduate standing.

**Grading:** Graded

*BUS 231C - High Tech Marketing*

3 unit(s)

Course will give students exposure to marketing in technology industries. Principal ideas from the technology adoption life cycle form the conceptual basis for the course. Differences between technology marketing and other kinds of marketing are explored and special skills identified.

**Prerequisite(s):** BUS 230, business statistics, and graduate standing.

**Grading:** Graded

*BUS 232 - Third World Marketing Manager*

3 unit(s)

Marketing in Third World high risk areas: Russian, African, Islamic. Understanding methods of marketing, as well as

how to deal with specific third world risks: mafia, bribery, "black" market, smuggling and corruption.

**Prerequisite(s):** BUS 230 and graduate standing.

**Grading:** Graded

*BUS 233 - Business to Business Marketing*

*3 unit(s)*

Course deals with business-to-business marketing, that is, the marketing of goods, services, and ideas to business and non-retail institutions. Covers product, price, promotion and distribution with emphasis on strategy development and marketing decision-making.

**Prerequisite(s):** BUS 230 and graduate standing.

**Grading:** Graded

*BUS 234A - Social Media Marketing*

*3 unit(s)*

Approaches to social media marketing. Benefits and opportunities companies face as online social networking influences company marketing strategies. Use of emerging technology to promote brand awareness and strategies for social recovery.

**Grading:** Graded

*BUS 234B - Promotional Strategy*

*3 unit(s)*

Explores the media and techniques used by businesses to communicate with consumers, resellers, and the public. Topics will include budgeting; choosing media; testing communication effectiveness; executing and controlling advertising; personal selling, and consumer trade promotions.

**Prerequisite(s):** BUS 230 and graduate standing.

**Grading:** Graded

*BUS 235A - Introduction to Business Analytics*

*3 unit(s)*

This course will introduce fundamental business analytics tools including Probability Analysis, Decision Analysis, and Linear and Discrete Optimization. An emphasis will be placed on conceptual understanding and analytic insight.

**Prerequisite(s):** Graduate Standing only.

**Grading:** Graded

*BUS 235B - Business Research*

*3 unit(s)*

This course introduces participants to 21st Century business research methodology. The emphasis here is not on issues related to ongoing data sources but rather to unique, one-time problems that are best solved with custom research projects. Quantitative methods are emphasized but the advantages of the qualitative perspective are not overlooked. Other topics include questionnaire design, data collection, analysis, and presentation, highlighting appropriate new technology. The aim is to prepare managers to conduct research as well as to enable them to engage collaboratively with their research consultants.

**Prerequisite(s):** Graduate Standing only.  
**Grading:** Graded

*BUS 235C - Data Mining for Business Analytics*

3 unit(s)

Data mining is used to discover patterns and relationships in data. Emphasis is on large complex data sets such as those in transactional databases or gathered through web mining. Topics: data visualization, association rules, clustering, and various modern classification techniques.

**Prerequisite(s):** Graduate Standing only.  
**Grading:** Graded

*BUS 235D - Business Analytics Simulation*

3 unit(s)

Transforming diverse data into knowledge-driven business decisions. Participants make tactical and strategic decisions based on consumer, competitor, aggregate market, financial, etc. Success is gauged by monitoring a dashboard that includes manufacturing productivity, return on investment, investment in the future, market share, product quality, financial performance, etc.

**Prerequisite(s):** Graduate Standing only.  
**Grading:** Graded

*BUS 236 - Current Topics in Marketing*

3 unit(s)

Emphasizes marketing and decision-making in social, government and business environments. Uses behavioral science and quantitative techniques to develop strategies for tactical and strategic marketing solutions to problems which impact on R&D, finance, logistics, manufacturing, distribution and others.

**Prerequisite(s):** BUS 230 and graduate standing.  
**Grading:** Graded

*BUS 237 - Sales Management*

3 unit(s)

Learn to recognize and capitalize on emerging market opportunities. Develop ability to manage different personality types, enhance communication skills, and increase cultural sensitivity. Sales forecasting, training, motivational techniques, and ethics.

**Grading:** Graded

*BUS 238 - International Marketing*

3 unit(s)

The development of international marketing strategy. Focus on the evaluation of the various environmental variables, selection of target markets, methods of entry, developing an appropriate marketing mix and planning/control of the international marketing effort.

**Prerequisite(s):** BUS 230 and graduate standing.

**Grading:** Graded

*BUS 240 - Electronic Commerce*

3 unit(s)

Focuses on organizational uses of information technology, impacts of IT on organizational operations and strategies, and increasing importance of Internet in business activities. Covers fundamentals of IT, organizational applications of IT and Internet, and successfully developing and implementing IT-based applications.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 241 - Structured Methods of Information Technology*

3 unit(s)

An analysis of structured methodologies of programming, documentation, testing, and management. Examined in terms of various information technologies; emphasis on development of techniques to analyze, design and adapt system solutions to organizational information needs.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 242 - Distributed Information Systems*

3 unit(s)

An analysis of database management systems, data communications, and telecommunications in a distributed information network. Focus will concentrate on identifying the means through which an organization can use the information technologies of distributed systems to satisfy its data needs.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 243 - Database Management*

3 unit(s)

Introduction to database approach of planning, design and implementation of information systems applications in organizations from the viewpoint of the manager as a knowledgeable user. Includes data modeling, data integrity and practical project assignments.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 245 - Service Innovation*

3 unit(s)

The course introduces students to the service in a variety of trade, enterprise and service industry settings. Students will learn about the economics and management of service systems and their design, operations, information technology, performance measurement, marketing, supply chain and quality assurance.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 247 - Big Data Management*

3 unit(s)

Exploration of Big Data and how businesses are succeeding (or failing) in using it. Learn to extract value from Big Data by getting data ready for analysis (âdata wranglingâ), and by understanding and communicating the business value.

**Grading:** Graded

*BUS 248 - Cyber Risk Management*

3 unit(s)

This course surveys cyber risk management concepts and best practices. Topics include cyber security threats, countermeasures, vulnerabilities, cost/benefit analysis, incident handling/response, business contingency planning, ethics, and legal imperatives within the organizational context.

**Grading:** Graded

*BUS 250 - Law and Ethics*

3 unit(s)

Course focuses on both law and ethics in the business environment, how individuals and organizations approach law and ethics, as well as the ethical, legal and social consequences of disregarding law and ethics in favor of other objectives.

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

*BUS 251 - Strategic Human Capital Performance Management*

3 unit(s)

This course utilizes case and research discussions as well as quantitative costing and utility analyses to develop practical skills in the global deployment of human resources to achieve and sustain strategic competitive advantage.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 252 - Managing Organizational Change*

3 unit(s)

The focus will be upon applied organizational change by covering organizational behavior from a normative, policy-oriented perspective. The perspective will be one of viewing the person (student) as an actual or potential change agent; a consultant (internal or external), innovative personnel specialist, or middle or top level manager.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 253 - Negotiation and Conflict Management*

3 unit(s)

Introduces a theoretical framework and skill-building exercises/simulations for negotiating agreements in adversarial or competitive relationships. Explores conflict resolution methods applicable to commercial transactions, employee

relations, union management negotiation and contract disputes, as well as international diplomacy.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 254 - Advanced Personnel Management*

*3 unit(s)*

Selected human resource management topics are studied, including: computer applications and quantitative methods, forecasting, job analysis, personnel recruitment and selection, training and development, EEO, compensation, performance appraisal, OSHA requirements, labor relations.

**Prerequisite(s):** BUS 251 (or equivalent); statistics and computer applications; graduate standing.

**Grading:** Graded

*BUS 255 - Diversity in the Workforce*

*3 unit(s)*

Analysis of communication, leadership, motivation, group dynamics, decision-making, problem solving, training, change, conflict resolution and other behavioral concerns as they apply to the management of the multicultural workforce.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 258 - Leading Edge Managers*

*3 unit(s)*

Experiential seminar to develop specific managing and leading capabilities. Focus on skills typically missing from MBA education: managing a multi- and cross-cultural workforce; developing effective teams and collaborative work; building a high-performing work system.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 259 - Mg Legal Aspects of Tech & New Prod Dev*

*3 unit(s)*

This course addresses emerging issues in intellectual property - patent, copyright, trademark, and trade secrets laws - with an emphasis toward managing and protecting innovation and new product development in areas such as computer technology, biotechnology, and cyber-space.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 260 - Managerial Decision Analysis*

*3 unit(s)*

Concerns the inherent complexities in the process of choice. Covers decomposition of the decision environment, the use of decision trees, value theory, analysis of criterion, the statistical measurement of risk and uncertainty, preposterior analysis, and problems of collective choice.

**Prerequisite(s):** Business statistics and graduate standing; restricted to Business - MBA majors only  
**Grading:** Graded

*BUS 261 - Legal Challenges for the International Manager*

3 unit(s)

Learn how legal systems affect international business. Topics include: securities law in international transactions; US trade law; export regulations; foreign legal problems; legal risk analysis; labor law systems; control of capital and currency; intellectual property rights; licensing; business with state-controlled agencies.

**Prerequisite(s):** Graduate standing.  
**Grading:** Graded

*BUS 262 - Leadership*

3 unit(s)

Explores classic and contemporary models of leaders and leadership and defines the difference between management and leadership. Practical applications of theory emphasizing the contingency perspective.

**Prerequisite(s):** Graduate standing.  
**Grading:** Graded

*BUS 262A - Global Leadership and Innovation*

3 unit(s)

This course provides an in-depth introduction to global leadership and its development and to fostering innovation and global change. Through assessments and behavioral simulations, it prepares students to do global work effectively in a complex context with people from various cultures.

**Prerequisite(s):** Graduate standing.  
**Grading:** Graded

*BUS 262B - Global Leadership Development*

3 unit(s)

Students learn about global leadership and, in particular, its development in the Global Leadership Laboratory. As GLLab Associates, they help facilitate high impact experiential exercises, learn to give feedback, and supervise and coach student teams in global leadership courses.

**Prerequisite(s):** Graduate Standing  
**Grading:** Graded

*BUS 263 - High Performance Management*

3 unit(s)

An intense analysis of management with main focus on understanding organizations as systems. Use of academic theories as tools with which you solve real-world tactical performance problems. Emphasizes critical thinking and problem solving.

**Prerequisite(s):** Graduate standing.  
**Grading:** Graded

*BUS 264 - Introduction to Technology Planning and Management*

3 unit(s)

Develops technology strategies through a qualitative (scenario and strategy map-based) and a quantitative (decision analysis and option theory-based) approach for technology portfolio planning and management. It provides practical, stimulating, and easy-to-use methods for realistic applications.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 264A - Professional/Business Ethics*

3 unit(s)

Ethical principles relevant to decision-making in business situations. Using case studies, examines and analyzes moral issues to determine the most appropriate actions. Experiential and self-reflective as well as theoretical.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 265 - Silicon Valley Experience*

2 unit(s)

This course is designed to develop the "whole student" for success in the business world, including professionalism, ethics, case competitions, communications, networking, career success, and work/life balance. It includes lectures, speakers, panels, competitions, and other events providing students with an in-depth exposure to Silicon Valley.

**Grading:** Graded

*BUS 265P - Silicon Valley Experience for Professionals*

1 unit(s)

Supports professionals as they advance into managerial roles. Focus is on advanced soft-skills, communication skills, career planning, and leadership development. Class consists of roundtable discussions, career coaching, presentation feedback, and soft-skills workshops. Speaker events and company visits are also incorporated.

**Prerequisite(s):** Graduate Standing.

**Grading:** Graded

*BUS 267 - Alternative Compensation Systems*

3 unit(s)

A systematic exposure to theories and practices of various organizational reward systems. Drawing on managerial, behavioral, and economic frameworks to review various compensation topics and tackle some of the most controversial or innovative issues in compensation management.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 268 - Managing Across Cultures*

3 unit(s)

A comprehensive foundation for understanding, managing, and successfully interacting in the multi-faceted,



culturally-embedded contexts of multinational firms. Understanding major issues facing multinational corporations in the management of international operations; insights into cultural, historical and institutional factors; skills for working effectively in international multicultural teams.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 268A - Global Business Management*

3 unit(s)

A global view on business, investigating why and how companies succeed internationally. It provides students a conceptual tool by which to understand how economic, social and political factors influence both domestic and international operations.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 269 - Strategic Management in the Computer Industry*

3 unit(s)

The online course focuses on the industry-specific strategic challenges faced by companies that comprise the sector that is preeminent in the Information Age. Case studies favor PCs over big Iron and software over hardware.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 270 - Financial Management*

3 unit(s)

Introduces the structure, markets and regulatory factors within the financial system. Develops basic skills in preparing financial plans/budgets, valuing capital costs, financial assets and evaluating the firm's capital structure, cost of capital, working capital, dividend policies, financing and investment decisions.

**Prerequisite(s):** BUS 220 or BUS 231B and graduate standing; restricted to Business - MBA majors only

**Grading:** Graded

*BUS 271 - Capital Markets*

3 unit(s)

Driven by technological change, deregulation and globalization, course provides students an overview of the U.S. and international financial environment through financial media, spreadsheets and the Internet. Students leave the class with knowledge of interest rates, flow of funds, derivatives, money and capital markets and financial intermediaries.

**Prerequisite(s):** BUS 270 and graduate standing.

**Grading:** Graded

*BUS 272 - Current Topics in Finance*

3 unit(s)

Presented as a collection of topics of current interest and concern to managers, investors and creditors. A seminar approach emphasizes discussion, illustrations, examples and applications drawn from current financial practice to encourage exploration of all facets of select financial issues.

**Prerequisite(s):** BUS 270 and graduate standing.  
**Grading:** Graded

*BUS 273 - Business Valuation*

3 unit(s)

Course uses accounting and market data to determine the value of public and private businesses. The course considers methods and models whereby business values are created and destroyed. Techniques, from basic rules of thumb to holistic computer models are considered.

**Prerequisite(s):** BUS 220 and BUS 270.  
**Grading:** Graded

*BUS 274 - Financial Analysis of Technology-Based Firms*

3 unit(s)

Students will learn to develop financial strategies in practical settings. This includes the ability to construct and interpret pro forma financial statements, planning and control models, working capital analysis, capital structure studies, capital budgeting and cost of capital models, and valuation analysis.

**Prerequisite(s):** BUS 270 and graduate standing.  
**Grading:** Graded

*BUS 275 - Corporate Finance: Cases in High Tech Firms*

3 unit(s)

Course is a continuation of corporate finance where finance concepts directly related to high technology firms are examined. The concepts are enhanced by using five Harvard cases. Other data and handouts are provided to supplement these cases and the textbook.

**Prerequisite(s):** BUS 270 and graduate standing.  
**Grading:** Graded

*BUS 276 - New Venture Finance*

3 unit(s)

New ventures face different business and financing environments than large, publicly-traded firms. The risk of R&D failure is more severe for new ventures. Examines how business and financing decisions are intertwined. Topics: Venture capital, joint ventures and intrapreneurship.

**Prerequisite(s):** BUS 270 and graduate standing.  
**Grading:** Graded

*BUS 277 - Investment Analysis and Management*

3 unit(s)

Principles of financial and portfolio analysis applied to investments in common stocks and bonds. Descriptive characteristics of financial markets reviewed, with main emphasis on application of financial theory and statistics to understanding movements in security prices and portfolio values. A financial management viewpoint will be taken in conducting fundamental valuation analysis and formulating portfolio policy.

**Prerequisite(s):** BUS 270 and graduate standing.

**Grading:** Graded

*BUS 278 - International Corporate Finance*

3 unit(s)

The finance manager's responsibilities, risks, problems and need for strategic planning. Unique aspects of financial analysis for international business discussed and applied to real and/or similar decision situations.

**Prerequisite(s):** BUS 270 and graduate standing.

**Grading:** Graded

*BUS 280 - Operations and Supply Chain Management*

3 unit(s)

Analysis of effective and efficient flow of materials, products, services, and information within and across organizations. Includes: process flow analysis, capacity planning, quality, lean supply chain, layout, aggregate planning, supply chain networks, inventory management, sourcing, ERP, and logistics planning.

**Prerequisite(s):** Graduate standing. Restricted to Business - MBA majors only

**Grading:** Graded

*BUS 280IS - Independent Study*

1-6 unit(s)

Independent study for the student with a specific project in mind, in an area not covered by existing coursework. The student must submit a one-page formal proposal to be accepted by an assigned faculty member and approved by the appropriate graduate program director. Number of units assigned are based on depth and breadth of project.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*BUS 281 - Management of High Technology Organizations*

3 unit(s)

Investigates ingredients for sustained profitable innovation. Emphasizes management of technological innovation, including: innovation strategies, organization, project selection, project management, managing and integrating functional areas. Analyzes developmental processes which enable small firms to grow and prevent large organizations from stifling innovation.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 282 - Silicon Valley: The Business of Technology*

3 unit(s)

The Silicon Valley Business of Technology course prepares students for fast-paced and pressure-packed conditions to accelerate development of Critical Thinking Skills; providing a unique insight into the Silicon Valley culture. Students will apply technology to various industries by understanding its origins, categories, and functionality.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*BUS 282A - Essentials of Management and Organizational Behavior*

3 unit(s)

Familiarizes students with the challenges that arise for managers in organizational settings; surveys theories and practices relating to managerial roles, organizational cultures, strategy, planning, team building, communication, motivation, leadership, decision-making, control, structure, and change.

**Prerequisite(s):** Enrollment in the MBT program.

**Grading:** Graded

*BUS 282B - Essentials of Operations Management*

3 unit(s)

Familiarizes students with the role and importance of operations management and how it interacts with other parts of the organization; develops skills in applying analytical tools and techniques to operations management challenges.

**Prerequisite(s):** Enrollment in the MBT program.

**Grading:** Graded

*BUS 283 - Entrepreneurship*

3 unit(s)

Examines the growth and nature of entrepreneurship and the support infrastructure of tasks, people, finances and technology. Emphasizes entrepreneur characteristics sought by venture capitalists and investors, role of the business plan and evolutionary stages of start-up activity.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 284 - Managing Product Development*

3 unit(s)

Views product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring product development activity and in strategically managing a portfolio of product development projects.

**Prerequisite(s):** Graduate Standing.

**Grading:** Graded

*BUS 284C - Managing Medical Product Development*

3 unit(s)

Views medical product development as a cross-functional business process. Examines concepts used and management challenges faced in structuring medical product development activity and in strategically managing a portfolio of medical product development projects. Examines industry practices and cases relevant to medical product development.

**Prerequisite(s):** Admission to MPDM program and completion of BUS 224C , BUS 286 and SMPD 289A.

**Grading:** Graded

*BUS 285 - Total Quality Management*

3 unit(s)

Documents forces which propel quality (competition, Deming, Baldrige, etc.) and impact on planning, benchmarking and competitive analysis. Includes design for manufacturability, design of experiments, Taguchi methods, systems analysis, continuous process development and statistical process control.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 286 - Project Management*

3 unit(s)

Covers both strategic and operational points of view for managing projects. Quantitative methods include project planning, budgeting, selection, scheduling, evaluation and control. Qualitative methods include project organization, staffing and team building.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 287 - Advanced Topics in Global Supply Chain Management*

3 unit(s)

In depth analysis of current issues in global SCM with emphasis on industry best practices from around the globe. Topics may include continuous replenishment, value of information, outsourcing, collaboration, strategic alliances, e-SCM, supply chain risk, performance metrics, SCM simulations.

**Prerequisite(s):** BUS 280. Graduate standing.

**Grading:** Graded

*BUS 288 - Manufacturing Planning, Cost and Control*

3 unit(s)

Methods for analyzing cost/volume/profit relationships, job costing, process costing and activity-based accounting. Creating budgets, standards and performance measurements applied to cost of quality and internal control systems. Develops financial tools for non-financial managers.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 289 - Managing Information and High Technology*

3 unit(s)

Applies convergence among information, technology and strategy to organization and design of information and business systems for competitive advantage. Practical uses of electronic data interchange, expert systems and design and control of database systems to manage high-tech production.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*BUS 290 - Strategic Thinking*

3 unit(s)

Integrative focus on managing the total enterprise, including corporate and business-level strategy formation. Applies market and industry analysis, using qualitative and quantitative techniques, to position companies in their competitive environment. Students create a strategic plan for on-going or new organization.

**Prerequisite(s):** Completion of BUS 201, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only. for MBA for Professional students: BUS 200W, BUS 202, BUS 210, BUS 220, BUS 230, BUS 250, BUS 260, BUS 270, BUS 280 and graduate standing; restricted to Business - MBA majors only.

**Grading:** Graded

**Note(s):** Must receive a minimum grade of "B" on project.

*BUS 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*BUS 294 - Management Simulation Competition*

3 unit(s)

Developing analytical and general management decision-making skills as member of a team competing in the regional business schools' management simulation game. Extensive use of computers for simulation and analytical/planning tools.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*BUS 295 - Management Consulting Field Experience*

1-3 unit(s)

Apply management theory and learn consulting skills by carrying out an intensive project. Identify and analyze actual business problems, develop and evaluate alternative solutions and present plan to management.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

*BUS 297A - Special Topics in Business Administration*

1-4 unit(s)

Special topics to augment regularly-scheduled electives.

**Prerequisite(s):** Graduate standing and prerequisite courses as specified.

**Grading:** Graded

*BUS 297D - Special Topics in Business Administration*

3 unit(s)

Special topics to augment regularly-scheduled electives.

**Prerequisite(s):** Graduate standing and prerequisite courses as specified.

**Grading:** Graded

*BUS 298 - Master's Project*

3 unit(s)

Supervised completion of the Plan B (Project) culminating experience.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Advancement to Candidacy and instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*BUS 298C - Applied Business Experience Internship*

3 unit(s)

The course provides students with an opportunity to translate their academic training into real world practice and gain overall knowledge of key functional areas of business. The internship must offer students a valuable learning experience and must significantly increase their knowledge of business organizations. Students are responsible for identifying a specific internship opportunity and obtaining an official offer from an employer. Upon approval from the MBA Director, the students will be able to enroll in the 3-unit course which will count as one of the MBA electives. The course requires the preparation of an internship journal & report. The internship qualifies as Curricular Practical Training (CPT) for international students.

**Prerequisite(s):** Advancement to Candidacy

**Grading:** Graded

*BUS 298I - Applied Business Experience Internship*

1 unit(s)

For the student with a specific internship providing a quality experience that reinforces the curriculum and involves meaningful work. The student must submit a one-page formal proposal to the graduate program director. A final report is required. The internship must qualify as Curricular Practical Training (CPT) for international students.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Approved advancement to candidacy.

**Grading:** Mandatory CR/NC/RP

*BUS 299 - Master's Thesis*

1-4 unit(s)

Master's Thesis Plan A.

**Prerequisite(s):** Approval of the instructor and admission to candidacy. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*MTM 201 - Transportation Systems and Society*

3 unit(s)

Core transportation knowledge and systems thinking. Characteristics of travel modes and infrastructural elements that produce transportation systems; public, private, and nonprofit actors involved in transportation; transportation systems as levers toward achieving economic vitality, social equity, environmental sustainability, and community goals; and key challenges transportation system managers will face in the coming decade.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies the GWAR for the MSTM program.

*MTM 202 - Introduction to Transportation Funding & Finance*

*3 unit(s)*

Introduces financial and managerial uses of accounting information systems and concepts. Includes standard costs, cost-volume-profit relationships, contribution analysis, budgeting, performance measurement, variance analysis, working capital, valuing capital costs and financing investment decisions. Explores use of complex information decision systems.

**Grading:** Graded

*MTM 203 - Transportation Marketing and Communications Management*

*3 unit(s)*

Emphasizes positioning services to meet the needs of particular groups/market segments and marketing the system to new users/user groups (including developing the public/private sector relationship). Examines strategies for developing the community relationship with marketing and public relations efforts (and using the media to advantage).

**Grading:** Graded

*MTM 214 - Transportation Policy and Regulation*

*3 unit(s)*

Surveys political frameworks of governments as both customer and provider; development of transportation policy with public involvement; and performance measurement with public oversight. Reviews policy impact on intermodal development in seeking to manage public and private objectives and diverse agendas of federal, state and local agencies.

**Grading:** Graded

*MTM 215 - Transportation Planning and Project Development*

*3 unit(s)*

Examines management of transportation planning and project development processes, including: regional and state system-wide planning; project-level planning; environmental review; obtaining governmental approvals and permits; contract management; and project management.

**Prerequisite(s):** MTM 201 or instructor approval.

**Grading:** Graded

*MTM 217 - Leadership and Management of Transportation Organizations*

*3 unit(s)*

A study of the human resource aspects of managing transportation systems, including labor/management collaboration/negotiation and consultative employee relations programs. Builds skills in leadership and team building within the context of bringing about organizational change in a complex transportation system.



**Grading:** Graded

*MTM 226A - Emergency Management Issues for Transportation Professionals*

*3 unit(s)*

Examines the role of emergency management within transportation agencies and the role of transportation and related resources in community-wide responses to emergencies disasters. Includes instruction in Standardized Emergency Management Systems (SEMS).

**Grading:** Graded

*MTM 226B - Security Issues for Transportation Professionals*

*3 unit(s)*

Examines contemporary challenges to transportation security. Topics to be covered include: management of infrastructure challenges (such as tunnel, bridge, road and rail vulnerabilities) prevention of and response to theft, work place violence, disruptive terrorism, suicide and placement combing attacks, and their related protection strategies. Students will learn about federal and state grants for security, as well as regional transportation planning for disaster response planning.

**Grading:** Graded

*MTM 230 - Multi Modal Transportation in CA*

*3 unit(s)*

Course provides an overview of public transit systems in California. It examines the maze of public transit services, funding and regulation.

**Grading:** Graded

*MTM 236 - Managing Technology Innovations in Transportation*

*3 unit(s)*

Management challenges posed by five technological trends: electrification, vehicle automation, connected vehicles and infrastructure, car sharing and ride sharing, and mobility as a service. Topics include: impacts on infrastructure, financing, and labor; managing technologies to support environmental, equity, and economic efficiency policy goals; and supporting collaboration between public agencies and private sector firms.

**Grading:** Graded

*MTM 245 - High-Speed and Intercity Rail: Planning & Design*

*3 unit(s)*

Course introduces students to fundamental principles for managing the planning and design of high-speed and intercity rail projects. Students analyze the challenges and opportunities that high-speed and intercity rail services face in the U.S., given prevailing travel behavior patterns, land-use patterns, and funding sources. Topics include the interrelationship of high-speed rail with conventional intercity rail and urban public transportation, the roles of different levels of government in planning and design, and the delivery and governance of rail corridors and stations. The course takes an international perspective, drawing lessons from around the globe and applying these principles to the U.S. context.

**Grading:** Graded

*MTM 246 - High-Speed & Intercity Rail Operations/Engineering*

*3 unit(s)*

Course introduces students to best practices for managing the engineering and operations of high-speed and intercity rail. Topics covered include day-to-day operational concerns such as customer experience, service scheduling, and security management. In addition, the class covers strategic issues such as operating blended service that accommodates both passenger and freight service, managing public communications, and contracting approaches for both construction and operations.

**Grading:** Graded

*MTM 250 - Transportation and the Environment*

*3 unit(s)*

Students will be introduced to the complexities in the relationship of transportation and the environment. An important theme of this class is that real world trade-offs are inherent in addressing transportation as an important cause of environmental degradation. Solutions considered have technical, socio-economic, and cultural impediments. Students will learn from case studies of success in creating more environmentally-benign forms of access and mobility. Students will contribute their own ideas in class discussions and a term paper on innovation in transportation policy to address environmental concerns.

**Grading:** Graded

*MTM 260 - Project Management in Transportation*

*3 unit(s)*

Reviews project management, program, and portfolio practices defined by the Project Management Institute (PMI) and the International Organization for Standardization (ISO). Examines how those practices apply to transportation and compares project management practices in the US transportation industry to other industry sectors and to general practices in other countries.

**Grading:** Graded

*MTM 283 - MSTM Capstone - Project Design*

*3 unit(s)*

Provides the first part of a culminating experience in which students design and carry out an individual, comprehensive policy or program evaluation. Students conduct background research and develop a Policy or Program Evaluation Proposal that demonstrates their capacity to do independent research, analysis, and writing about a complex transportation management problem.

**Prerequisite(s):** Completion of 21 units towards the Master of Science in Transportation Management degree

**Grading:** Credit/No Credit

*MTM 290 - MSTM Capstone - Evaluation Report*

*3 unit(s)*

Provides the second part of a culminating experience in which students design and carry out an individual, comprehensive policy or program evaluation. Students complete a Policy or Program Evaluation following the

proposal design they developed in MTM 283. The final report demonstrates their capacity to do independent research, analysis, and writing about a complex transportation management problem.

**Prerequisite(s):** MTM 283

**Grading:** Mandatory CR/NC/RP

*MTM 1290R - Culminating Experience Supervision*

*1 unit(s)*

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## School of Global Innovation and Leadership

**Office:** Business Tower 450

**Telephone:** 408-924-6880

**Email:** Contact the School Director, Analyst, or Coordinator

**Website:** [www.sjsu.edu/sgil/](http://www.sjsu.edu/sgil/)

### Professors

Anuradha Basu  
Arvinder Loomba  
Asbjorn Osland  
Joyce Osland  
Taeho Park, Director  
Carol Reade  
Ming Zhou

### Associate Professors

Sarika Pruthi  
Xiaohong Quan  
Yan Diana Wu  
Shu Zhou

### Assistant Professors

Tanvi Kothari  
Alexey Semenov  
Tianqin Shi  
Ju Myung Song

## Undergraduate

# Business Administration, Entrepreneurship Concentration, BS

The concentration in Entrepreneurship, offered by the School of Global Innovation and Leadership, prepares students with a drive for innovation and the passion to create new businesses to be entrepreneurs or corporate innovators. Students who complete the program will gain a global perspective of entrepreneurship, an understanding of the key management principles across business functions and the need to embrace change in a rapidly evolving environment due to global competition, new technology and changing customer requirements.

- Program Learning Outcomes

## Summary of Degree Units

University Graduation Requirements 35

Major Preparation 17

Major Core Requirements 43

Concentration Requirements 18

University Electives 7

**Total 120**

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Entrepreneurship must be completed with a grade of "C- or Better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/AMS 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (61 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended.)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Upper Division Business Integration and Perspective Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (18 units)

Additionally, to qualify for a baccalaureate degree in business administration with an entrepreneurship concentration, all courses in the concentration must be completed with a grade of "C- or Better".

### Required Courses (9 units)

- BUS2 131D - Marketing in New Ventures 3 *unit(s)*
- BUS5 181 - Introduction to Entrepreneurship 3 *unit(s)*
- BUS5 182 - Business Plans for New Ventures 3 *unit(s)*

### Concentration Electives (9 units)

Complete Three Courses From:

- BUS5 182A - Startup Founders & Funders 3 *unit(s)*
- BUS5 183 - Global Entrepreneurship 3 *unit(s)*
- BUS5 184A - Management of Innovation 3 *unit(s)*
- BUS5 185 - Family Business Dynamics 3 *unit(s)*
- BUS5 186H - Entrepreneurship Laboratory 3 *unit(s)* (*Instructor permission only*)
- BUS5 186S - Current Issues in Entrepreneurship 3 *unit(s)*
- BUS5 186V - Venture Lab 3 *unit(s)*

### Additional Elective Courses

No more than one of the three elective courses may be completed from:

- BUS1 171B - Commercial Banking 3 *unit(s)*
- BUS1 173C - Entrepreneurial Finance 3 *unit(s)*
- BUS1 177 - International Business Finance 3 *unit(s)*
- BUS2 131A - Business to Business Marketing 3 *unit(s)*
- BUS2 131B - Retail Marketing Management 3 *unit(s)*
- BUS2 134C - Social Media Marketing 3 *unit(s)*
- BUS2 136 - Product Development 3 *unit(s)*
- BUS3 153 - Management of Diversity 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*
- BUS5 162 - International and Comparative Management 3 *unit(s)*
- BUS5 163 - Management Issues in High Technology Companies 3 *unit(s)*
- BUS5 165A - Global Leadership 3 *unit(s)*
- BUS5 167 - Managing Environmental Issues 3 *unit(s)*
- BUS5 169B - Honors Practicum in Organization and Management 3 *unit(s)*

## University Electives (7 units)

## Total Units Required (120 units)

# Business Administration, Global Operations Management Concentration, BS

The Global Operations Management (GOM) concentration, offered by the School of Global Innovation and Leadership, prepares graduates with state-of-the-art knowledge of managing operations in a global context. The focus will be on contemporary issues related to operations function which are of relevance in a firm's ability to effectively collaborate with its supply chain partners in order to remain competitive in a global economy. The GOM concentration prepares students for careers with global manufacturing, service, and consulting organizations by offering a variety of courses in management of materials, quality, supply chains, services, global projects, and operations strategy. As part of this concentration, students have an opportunity to interact with GOM-related industry professionals as facilitated by the Global Operations Management Association, a GOM-affiliated student club at SJSU. They can also work on real-world consulting projects or explore internships in operations as facilitated by Silicon Valley Center of Operations and Technology Management.

- Program Learning Outcomes

## Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	21
University Electives	4
<b>Total</b>	<b>120</b>

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Global Operations Management must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)



## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent.)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (64 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Upper Division Business Fundamentals Courses (15 units)

- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)

### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS3 189 - Strategic Management 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS5 187 - Global Dimensions of Business 3 unit(s)

- PHIL 186 - Professional and Business Ethics 3 *unit(s)* (S)
- One non-business global perspectives course in Area V 3 *unit(s)*

## Concentration Requirements (21 units)

*All concentration courses must be passed with a C- or better.*

### Required Courses (15 units)

- BUS5 142 - Total Quality Management 3 *unit(s)*
- BUS5 144 - Supply Chain Management 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*

### Complete Two Courses From:

- BUS5 141 - Procurement and Supply Management 3 *unit(s)*
- BUS5 142B - Business Process Management 3 *unit(s)*
- BUS5 144B - Global Operations Analytics 3 *unit(s)*
- BUS5 145 - Global Operations Strategy 3 *unit(s)*
- BUS5 147 - Service Operations Management 3 *unit(s)*
- BUS5 163B - Globalization and Innovation in Emerging and Developing Markets 3 *unit(s)*

### Concentration Electives (6 units)

Complete two courses from the following list or from required courses listed above if not already counted:

- BUS2 131A - Business to Business Marketing 3 *unit(s)*
- BUS3 153 - Management of Diversity 3 *unit(s)*
- BUS5 141B - Transportation & Logistics Management 3 *unit(s)*
- BUS5 145B - Healthcare Operations Management 3 *unit(s)*
- BUS5 148 - Sustainable Operations Management 3 *unit(s)*
- BUS5 162 - International and Comparative Management 3 *unit(s)*
- BUS5 163A - Negotiating Globally 3 *unit(s)*
- BUS5 165A - Global Leadership 3 *unit(s)*
- BUS5 167 - Managing Environmental Issues 3 *unit(s)*
- BUS5 169B - Honors Practicum in Organization and Management 3 *unit(s)*
- BUS5 183 - Global Entrepreneurship 3 *unit(s)*
- BUS5 184A - Management of Innovation 3 *unit(s)*

### University Electives (4 units)

### Total Units Required (120 units)

## **Business Administration, International Business Concentration, BS**

The concentration in International Business (IB) is designed to prepare students for today's global business environment. IB as an interdisciplinary program builds capacity around key challenges and opportunities confronting all global businesses, including managing across borders, fostering innovation and entrepreneurship, and developing effective global strategies. In addition students may select an area of specialization, either a business functional area, an industry area, a geographic area of study, or language studies. Study abroad is required with one of three options: 1) a short-term faculty-led program; 2) a semester of study at a foreign university approved by CSU; or 3) an internship through AIESEC or other international internship program. The Director of the School of Global Innovation and Leadership can waive this requirement (e.g., international students need not study abroad). Study abroad courses that are regarded as equivalent can be substituted for IB program course requirements. This interdisciplinary approach provides a foundation for starting an international career. Graduates work in a variety of international areas and industries such as import/export, global operations, marketing, finance, hospitality and tourism, consulting, and project management, in both the private sector as well as governmental and non-governmental organizations.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 35

Major Preparation 17

Major Core Requirements 43

Concentration Requirements 24

University Electives 1

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for International Business must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (Or equivalent.)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (67 units)

### Core Courses (43 units)

#### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

#### Upper Division Business Fundamentals Courses (15 units)

- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)

#### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS3 189 - Strategic Management 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS5 187 - Global Dimensions of Business 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (24 units)

Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with an international business concentration all courses in the concentration must be completed with a grade of "C-" or better.

### Required Courses (12 units)

- BUS5 162 - International and Comparative Management 3 *unit(s)*
- BUS5 162A - International Business Strategy 3 *unit(s)*
- BUS5 183 - Global Entrepreneurship 3 *unit(s)*

### Complete One Course From:

- BUS5 163A - Negotiating Globally 3 *unit(s)*
- BUS5 163B - Globalization and Innovation in Emerging and Developing Markets 3 *unit(s)*
- BUS5 164A - Country Perspectives on Business and Management 3 *unit(s)*
- BUS5 164B - Doing Business Globally 1-4 *unit(s)* (3 *units* required)

### Concentration Electives (12 units)

Select 12 units of concentration electives or an area of specialization

*Do not take course if taken as part of required courses*

- BUS1 177 - International Business Finance 3 *unit(s)*
- BUS2 133A - International Marketing 3 *unit(s)*
- BUS3 156 - International Issues in Human Resource Management 3 *unit(s)*
- BUS3 169A - Honors Seminar 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*
- BUS5 163A - Negotiating Globally 3 *unit(s)*
- BUS5 163B - Globalization and Innovation in Emerging and Developing Markets 3 *unit(s)*
- BUS5 164A - Country Perspectives on Business and Management 3 *unit(s)*
- BUS5 169B - Honors Practicum in Organization and Management 3 *unit(s)*
- BUS5 186H - Entrepreneurship Laboratory 3 *unit(s)*
- BUS5 197 - Special Topics in International Business 3 *unit(s)*

### Area of Specialization

Area of Specialization requires a minimum of 9 units. The additional 3 units may be taken from the same area of specialization or from the list of concentration electives. Consult a business advisor in BBC008 for details on the Areas of Specialization.

*Choose a specialization area from: Business Functional Areas, Industry Areas, Area Studies, or Language Studies*

### University Electives (1 unit)

### Total Units Required (120 units)

*BUS5 16 - Introduction to Leadership & Innovation*

3 unit(s)

This interdisciplinary course covers basic theories of leadership and innovation and investigates key topics that influence contemporary social leadership issues. Students assess their leadership styles to create personal development plans leading toward positive, innovative impacts on society.

**Grading:** Graded

*BUS5 40 - Developing Your Entrepreneurial Potential*

3 unit(s)

This course introduces foundational concepts in innovation and entrepreneurship. It provides insights into the characteristics and motivations of entrepreneurs, and the factors that foster an entrepreneurial mind-set and enable individuals to translate positive attitudes toward entrepreneurship into actual behavior.

**Grading:** Graded

*BUS5 92 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*BUS5 140 - Fundamentals of Operations Management*

3 unit(s)

Familiarizes students with processes that transform inputs into finished goods and services; helps students understand the importance of operations management and how it interacts with other parts of the organization; develops skills in applying appropriate analytical tools to business operations challenges.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*BUS5 141 - Procurement and Supply Management*

3 unit(s)

Comprehensive survey of forecasting, inventory management (including just-in-time), purchasing, supplier relations, warehousing (tiered, centralized, decentralized) and distribution methods. Make-or-buy analysis and specification/standardization techniques.

**Prerequisite(s):** Upper Division Standing or instructor consent.

**Grading:** Graded

*BUS5 141B - Transportation & Logistics Management*

3 unit(s)

Coverage of the fundamentals of transportation management combined with a focus on its role in global supply management. The challenge of managing the various modes of transportation is combined with strategies for their use in the supply chain environment.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 142 - Total Quality Management*



3 unit(s)

Holistic approach to managing quality: interaction of production design, work design and the manufacturing process. International view and roles qualitative and quantitative techniques play in successful quality management programs.

**Prerequisite(s):** Upper Division Standing or instructor consent.

**Grading:** Graded

*BUS5 142B - Business Process Management*

3 unit(s)

Includes concepts and methods to optimize business processes relevant for creating value for the customers and adding value to an organization. Provides capability of designing and managing business processes and the interfaces between Operations Management and other business functions.

**Prerequisite(s):** Upper Division Standing or instructor consent

**Grading:** Graded

*BUS5 144 - Supply Chain Management*

3 unit(s)

Addresses concepts/tools for effective and efficient management of supply chains. Topics include materials planning/control, sourcing strategy, strategic alliances, information technology role, quality/customer issues, inventory management, and distribution/logistics management.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 144B - Global Operations Analytics*

3 unit(s)

Builds analytic thinking for improving global operations management (GOM). Introduces analytical methods, tools, and software to analyze GOM problems and then derive managerial implications and decisions in global business operations perspectives.

**Prerequisite(s):** Upper Division Standing or Instructor Consent

**Grading:** Graded

*BUS5 145 - Global Operations Strategy*

3 unit(s)

Studies operations management issues unique to manufacturers with extensive international operations. Educational objectives are to develop an understanding of: the strategic tradeoffs associated with global operations, total supply chain management and the economics of transnational logistics.

**Prerequisite(s):** Upper Division Standing or instructor consent.

**Grading:** Graded

*BUS5 145B - Healthcare Operations Management*

3 unit(s)

Operations Management (OM) approaches across a broad range of healthcare settings: clinical, management, and support processes in the medical and public healthcare systems. Apply OM tools including flowcharting, process

analysis, queuing, forecasting, six-sigma, health worker scheduling.

**Prerequisite(s):** Upper Division Standing or instructor consent

**Grading:** Graded

*BUS5 146 - Fundamentals of Project Management*

*3 unit(s)*

Fundamentals of managing projects, basic concepts and techniques underlying project management, and application using the appropriate software.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 147 - Service Operations Management*

*3 unit(s)*

Develops skills in setting formal standards for product attributes and operating procedures that comprise service experience. Categories of services; indirect and direct consumption. Psychological/social characteristics of the consumer/server encounters, enhancing ability to monitor service quality. Total quality management.

**Prerequisite(s):** Upper Division Standing or instructor consent. Business Minor.

**Grading:** Graded

*BUS5 148 - Sustainable Operations Management*

*3 unit(s)*

Introduces a holistic view of the interaction between operations activities and the environment. Builds awareness of major environmental problems and issues in the operations function of business, and learns environmental assessment and management tools for operations management.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 162 - International and Comparative Management*

*3 unit(s)*

Management functions and practices in an international context; comparison of management and business practices from various political and cultural perspectives; emphasis on what managers need to be aware of in order to perform in the international environment.

**Prerequisite(s):** Any 100w, BUS 187 or instructor consent. Upper division standing.

**Grading:** Graded

*BUS5 162A - International Business Strategy*

*3 unit(s)*

Course focuses on the strategic challenges and the strategic management of firms that operate and compete in a global environment. Course provides an overarching experience in international business by integrating knowledge and previous international business learning.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB, BUS 187, or instructor consent.

**Grading:** Graded

*BUS5 163 - Management Issues in High Technology Companies*

3 unit(s)

Provides an overview of a wide variety of key managerial concerns, industry knowledge and management techniques that are especially relevant in high technology companies. Such organizations compete within an environment characterized by rapid technological change and a high degree of uncertainty.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*BUS5 163A - Negotiating Globally*

3 unit(s)

Introduces a theoretical framework and skill-building exercises for negotiating agreements, resolving disputes, and making decisions across cultures. Builds awareness of the global negotiating environment including cultural and institutional factors. Applicable to commercial transactions, employee relations, contract disputes, and international diplomacy.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 163B - Globalization and Innovation in Emerging and Developing Markets*

3 unit(s)

This course investigates the world economy, specifically emerging and developing markets and provides an in-depth understanding of how institutions shape the strategies that firms employ and the actions that managers take in these countries.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB, BUS 187, or instructor consent.

**Grading:** Graded

*BUS5 164 - Strategies in High Technology Companies*

3 unit(s)

Examines strategies for companies within high technology industries, focusing on how to anticipate, identify and exploit such technological change for competitive advantage. Technological change creates opportunities for new industries and products, but at the same time renders obsolete existing company capabilities.

**Prerequisite(s):** BUS 161A. Upper division standing.

**Grading:** Graded

*BUS5 164A - Country Perspectives on Business and Management*

3 unit(s)

Provides a comprehensive study of the business and management practices of a featured country or region. Includes historical, institutional, sociopolitical, and cultural context. Japan is the featured country this semester. May be repeated for credit with a different featured country or region.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper Division Standing or Instructor Consent  
**Grading:** Graded

*BUS5 164B - Doing Business Globally*

1-4 unit(s)

Course is designed with a faculty-led program abroad. Students gain first-hand knowledge of the historical, institutional, and cultural factors influencing business and management practices in the destination country. May be repeated for credit with a different country destination.

**Prerequisite(s):** Upper Division Standing or Instructor Consent  
**Grading:** Graded

*BUS5 165A - Global Leadership*

3 unit(s)

This course introduces students to global leadership and its development and is designed for students who want to work effectively with people in diverse settings. Taught experientially, the course involves simulations, innovation projects, and extensive individual feedback.

**Prerequisite(s):** Any 100W.  
**Grading:** Graded

*BUS5 165B - Leadership & Innovation Practicum*

3 unit(s)

This is a project-based practicum course for students interested in global leadership and innovation. Course topics include project management of multicultural teams, innovation, and change management. Students apply theory and skills gained in previous courses as they implement personal leadership projects.

**Prerequisite(s):** Any 100W; BUS5 16; BUS5 165A; or instructor consent.  
**Grading:** Graded

*BUS5 167 - Managing Environmental Issues*

3 unit(s)

The management of environmental issues, including the relationship of business to the natural environment; the public policy context of management decision-making; and the greening of the corporation and implications for strategic management, operations, human resources, marketing and accounting.

**Grading:** Graded

*BUS5 169B - Honors Practicum in Organization and Management*

3 unit(s)

Second part of a two-semester honors program sequence. Student teams will work on a project sponsored by a company or other organization, under the supervision of the sponsor and the instructor. Teams will present their final report to the sponsor.

**Prerequisite(s):** BUS3 160 or BUS3 161A and permission of the instructor.  
**Grading:** Graded

*BUS5 180D - Individual Study*

1-3 unit(s)

Individual work on special topics by arrangement. Petition and plan of study must have consent of instructor and Chairperson.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Credit/No Credit

*BUS5 181 - Introduction to Entrepreneurship*

3 unit(s)

Insight into the characteristics of entrepreneurs, the approaches they use to create, identify and evaluate opportunities for new ventures and the skills that are needed to start and manage new ventures and develop a preliminary business plan.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*BUS5 182 - Business Plans for New Ventures*

3 unit(s)

An integrative course involving teamwork to prepare complete plans for starting a new business. This will require analyzing the industry and potential market, the competitive advantage of the business proposition, human and financial resource requirements and the founders' skills.

**Prerequisite(s):** BUS 181 or instructor consent. Upper division standing.

**Grading:** Graded

*BUS5 182A - Startup Founders & Funders*

3 unit(s)

Exploration of the early decisions that have important long-term consequences for founders and funders. Examines the motivations, mechanics and resources available for those interested in investing in early stage ventures as an angel investor or venture capitalist.

**Grading:** Graded

*BUS5 183 - Global Entrepreneurship*

3 unit(s)

Will explore the opportunities that entrepreneurs create, encounter and change in the global and cross-cultural arena. It will examine how entrepreneurs adapt to and succeed in a global economy and how institutional networks facilitate global and immigrant entrepreneurship.

**Prerequisite(s):** Upper Division or instructor consent

**Grading:** Graded

*BUS5 184A - Management of Innovation*

3 unit(s)

Discusses types of innovation and their impact. Analyzes industry practices in management of innovation for corporate growth and renewal through new products, processes, organization, and business models. Examines strategic and tactical aspects of the innovation process and alignment of innovation efforts with strategy.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*BUS5 185 - Family Business Dynamics*

3 unit(s)

This course explores and analyzes the unique issues and challenges of family businesses in terms of the dynamic relationship between the family and business and its impact on decision-making and performance of the business.

**Prerequisite(s):** BUS3 181 or instructor consent.

**Grading:** Graded

*BUS5 186H - Entrepreneurship Laboratory*

3 unit(s)

Explores all facets of growing an entrepreneurial organization, including building the team, sales, marketing, operations, and finance. Opportunity to learn with practical internship and roundtables with entrepreneurs, venture capitalists and others in the new venture ecosystem.

**Prerequisite(s):** Instructor's consent.

**Grading:** Graded

*BUS5 186S - Current Issues in Entrepreneurship*

3 unit(s)

A presentation of topics of current interest to entrepreneurs and intrapreneurs. Focuses on one or more special topics of concern to current practice, such as green entrepreneurship, social entrepreneurship, or managing high-growth ventures.

**Prerequisite(s):** BUS3 181 or instructor consent.

**Grading:** Graded

*BUS5 186V - Venture Lab*

3 unit(s)

VLAB is an experiential course in which students work on the process of developing and testing the idea(s) for a new venture. The course combines theory with hands-on entrepreneurship. Students will test each aspect of the business model outside the class, and share the insights with their peers in class. By the end of the course, they will have completed a prototype and be able to demonstrate the business opportunity.

**Prerequisite(s):** Upper Division Standing or Instructor Consent

**Grading:** Graded

*BUS5 187 - Global Dimensions of Business*

3 unit(s)

An integrative interdisciplinary foundation for more specialized courses and self-directed learning. Provides an

overview of economic, social, cultural and political/legal forces and factors influencing crossborder business and an introduction to international dimensions of business functions and operations.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*BUS5 192 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*BUS5 194 - Business Organization and Management of Technology Enterprise*

3 unit(s)

This course provides a "top down" overview of how commercial business works, including the business components: Corporate Environments, Human Resources, Legal, Marketing, Customer Insights, Management/Leadership. Communication and business soft skills will be covered providing a foundation for a solid business acumen. All class sessions focus on local and global perspectives.

**Prerequisite(s):** BUS 193 or ENGR 193.

**Grading:** Graded

*BUS5 196 - Doing Business Globally*

1-4 unit(s)

A hands-on, project-oriented course beginning with seminars led by instructor with experience in Latin American business providing insights into conducting business in the region. Each weekly, hour-long seminar will involve discussions of international business topics and issues specifically related to countries in the Latin American region. Students work through solutions with the instructor's guidance. To provide students with an opportunity apply a real-world context to what they have learned, at least one week of the course will be set in a Latin American country in which students will visit local businesses and other organizations, along with cultural sites.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** BUS3 80

**Grading:** Graded

*BUS5 196E - Startup Founders and Funders*

3 unit(s)

Covers the early decisions that have important long-term consequences for founders and funders. It also examines the motivations, mechanics and resources available for those interested in investing in early stage ventures as an angel investor or venture capitalist.

**Prerequisite(s):** BUS5 181 or Instructor Permission

**Grading:** Graded

*BUS5 196F - Critical Thinking in Business*

3 unit(s)

Development of critical thinking skills in business through analysis of current news stories, business case studies, and videos to assess credibility of sources, biases, assumptions, and inferences, and generate alternative hypotheses

based on logic and facts. Analysis of a current social issue including its sources, associated biases, related assumptions, current attempts at the solving the issue, and generation of solutions based on logic and facts.

**Prerequisite(s):** COMM 100W, ENGL 100W or LLD 100W

**Grading:** Graded

*BUS5 197 - Special Topics in International Business*

*3 unit(s)*

This course features special topics in International Business. The course can be taken for credit on campus or in a study abroad or short-term faculty-led program. It may be repeated for credit in the case of different special topics.

**Prerequisite(s):** Upper Division Standing or Instructor Consent

**Grading:** Graded

*BUS5 198 - Strategic Consulting for Small Business*

*3 unit(s)*

An integrative course requiring student work in a consulting arrangement with a local small business. Field study involves working within an integrated strategic framework to guide original data collection/analysis/recommendations encompassing external and internal considerations.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

## School of Information Systems and Technology

**Office:** Business Tower 250

**Telephone:** 408-924-7790

**Email:** Contact the School Director or Department Analyst

**Website:** [www.sjsu.edu/isystems](http://www.sjsu.edu/isystems)

### Professors

Richard J. Burkhard  
Subhankar Dhar  
Timothy Hill, Director  
Malu Roldan  
Ashraf Shirani  
G. Kent Webb

### Associate Professors

Nitin Aggarwal  
Leslie Albert  
Yu Chen  
Scott Jensen  
Tonia San Nicolas-Rocca



## Undergraduate

# Business Administration, Management Information Systems Concentration, BS

The Concentration in Management Information System, offered by the School of Information Systems and Technology, merges the knowledge of information technologies, systems and management. Students gain practical knowledge and skills in integrating computers and other data/text/image/graphics/voice technologies into the management of business information. Computerized systems are developed as applied information tools for managerial decision making and action taking. Graduates of the MIS concentration will be prepared for careers in the rapidly expanding profession of using information technologies to support management planning and control.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	40
Concentration Requirements	27
University Electives	1
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Management Information Systems must be completed with a grade of "C or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (or equivalent.)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (67 units)

### Core Courses (40 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

### Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)

### Upper Division Business Integration and Perspectives Courses (12 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (27 units)

Additional requirements for graduation: to qualify for a baccalaureate degree in business administration with a management information systems concentration, all courses in the concentration must be completed with a grade of "C" (2.0) or better.

### Required Courses (21 units)

- BUS4 92 - Introduction to Business Programming 3 *unit(s)*
- BUS4 110A - Fundamentals of Management Information Systems 3 *unit(s)*
- BUS4 110B - Systems Analysis and Design 3 *unit(s)*
- BUS4 111 - Networking and Data Communications 3 *unit(s)*
- BUS4 112 - Database Management Systems 3 *unit(s)*
- BUS4 119B - Business Strategy and Information Systems 3 *unit(s)*

### Complete One Course From:

- BUS4 119A - Practicum in MIS 3 *unit(s)*
- BUS4 119H - Honors Practicum in MIS II 3 *unit(s)*

### Additional Courses (6 units)

Complete two courses from:

- BUS4 115 - Advanced Networking and Data Communications 3 *unit(s)*
- BUS4 116 - Advanced Database Management Systems 3 *unit(s)*
- BUS4 118C - Information Security and Assurance Management 3 *unit(s)*
- BUS4 118D - Big Data 3 *unit(s)*
- BUS4 118H - Honors Practicum in MIS I 3 *unit(s)*
- BUS4 118S - Special Topics in MIS 3 *unit(s)*
- BUS4 118W - Web Based Computing 3 *unit(s)*

## University Electives (1 unit)

### Total Units Required (120 units)

*BUS4 91A - Advanced Computer Tools for Business*

1 *unit(s)*

Students learn advanced spreadsheet and presentation software skills through individual lessons and through application in team case projects.

**Prerequisite(s):** Basic Excel and PowerPoint skill proficiency

**Grading:** Credit/No Credit

*BUS4 91L - Computer Tools for Business*

1 unit(s)

Fundamentals of spreadsheet software through in-class exercises and individual assignments. Team projects to improve students' collaboration and communication skills, using online tools to produce slide and video presentations.

**Grading:** Credit/No Credit

*BUS4 92 - Introduction to Business Programming*

3 unit(s)

Analysis of business problems to design and implement the software component of an information system. Emphasis on structured design and programming. Introduction to visual programming languages.

**Prerequisite(s):** BUS 91L.

**Grading:** Graded

*BUS4 92I - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*BUS4 110A - Fundamentals of Management Information Systems*

3 unit(s)

Prepares students for upper division MIS courses by providing an overview of the strategic and managerial issues involved in the design, implementation, and maintenance of information systems. Includes an introduction to business application programming.

**Prerequisite(s):** BUS 92 , upper division standing.

**Grading:** Graded

*BUS4 110B - Systems Analysis and Design*

3 unit(s)

Introduction to systems development methodologies, techniques and tools. Emphasis on enterprise, process, data and object modeling techniques. Students use UML and prototyping tools to analyze and design an information system.

**Corequisite(s):** BUS4 92.

**Grading:** Graded

*BUS4 111 - Networking and Data Communications*

3 unit(s)

Emphasis on the concepts, architectures, components, protocols and standards for message movement within information networks. Uses the network design process to develop understanding of business and information technology perspectives.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*BUS4 112 - Database Management Systems*

3 unit(s)

Introduction to intermediate database management concepts, methods, and technologies, stressing the design and development of relational databases and data analysis. Emphasis on data modeling, data integrity, and SQL. Non-relational data and information management technologies are also introduced.

**Prerequisite(s):** BUS4 92 with a grade of C or better

**Grading:** Graded

*BUS4 115 - Advanced Networking and Data Communications*

3 unit(s)

Integration of telecommunications and database management systems concepts in a distributed information systems environment. Emphasis on information systems architectures, systems integration, open systems and other advanced topics.

**Prerequisite(s):** BUS4 111

**Grading:** Graded

*BUS4 116 - Advanced Database Management Systems*

3 unit(s)

Advanced topics in relational data management and analysis including advanced SQL, PL/SQL, and database functions, procedures, and triggers; dimensional modeling, data warehousing, and data visualization; non-relational (NoSQL, big data) databases and data analysis.

**Prerequisite(s):** BUS4 112

**Grading:** Graded

*BUS4 118C - Information Security and Assurance Management*

3 unit(s)

Introduces the spectrum of threats and associated best practices for managing information security and assurance in organizations. Covers use of education/training, policy/procedure and technology to balance information confidentiality, integrity and accessibility requirements against associated costs to support organizations' strategic goals.

**Corequisite(s):** BUS4 111.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*BUS4 118D - Big Data*

3 unit(s)

How to formulate business questions and use current Big Data analytics technologies through hands on assignments to wrangle, query, and graph relationships using a large unstructured dataset. Issues relating to developing the business proposition, Big Data strategies, and ethical considerations.

**Prerequisite(s):** BUS4 112

**Corequisite(s):** BUS4 110A

**Grading:** Graded

*BUS4 118H - Honors Practicum in MIS I*

3 unit(s)

Honors student teams formulate, develop and initiate implementation of an MIS project for an organization in our community. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills/processes to the project.

**Prerequisite(s):** BUS4 110A, BUS4 110B, 100W, admission to MIS Honors Program

**Corequisite(s):** BUS4 112

**Grading:** Graded

*BUS4 118S - Special Topics in MIS*

3 unit(s)

Special topics to augment regularly scheduled electives. Course is repeatable for credit, maximum 9 units.

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** BUS4 111; BUS4 112; and COMM 100W or ENGL 100WB or LLD 100WB.

**Grading:** Graded

*BUS4 118W - Web Based Computing*

3 unit(s)

Explores Web applications for personal, E-Commerce and corporate computing. Covers essentials of WWW protocols. Students will learn to design and program both client and server-side applications using HTML and extensions, JavaScript, Perl, VBScript, Active Server Pages, database connections, XML, Java.

**Prerequisite(s):** Grade of "C" or better in BUS4 110A and BUS4 112.

**Grading:** Graded

*BUS4 119A - Practicum in MIS*

3 unit(s)

Students, working in teams, complete an MIS project for a community organization. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills and processes to the project.

**Prerequisite(s):** Any 100W or equivalent; BUS4 110A, BUS4 110B, BUS4 111 and BUS4 112

**Grading:** Graded

*BUS4 119B - Business Strategy and Information Systems*

3 unit(s)

Analysis of the effective use of information systems and technology for competitive advantage by a business organization for enterprise, business-to-business, and e-Commerce computing. Emphasis on integration of information systems and technology with business strategy, financial justification, personnel and organizational considerations. Intended for last semester before graduation.

**Prerequisite(s):** Any 100W or equivalent, BUS4 110A, BUS4 110B, BUS4 111, BUS4 112

**Grading:** Graded

*BUS4 119H - Honors Practicum in MIS II*

3 unit(s)

Honors student teams develop and complete implementation of an MIS project for an organization in the community initiated in 118H. Requirements include using industry-standard project management tools and methods, interacting with project stakeholders in a professional manner, and applying appropriate technical skills/processes to the project.

**Prerequisite(s):** BUS4 118H

**Grading:** Graded

*BUS4 180I - Ind Studies MIS*

1-4 unit(s)

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*BUS4 188 - Business Systems and Policy*

3 unit(s)

Provides system perspective on organizations, using information as an integrating vehicle. Examines how information systems can serve business functions and integrate value chain activities.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB.

**Pre/Corequisite(s):** Fundamental courses.

**Grading:** Graded

*BUS4 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

## School of Management

**Office:** Business Tower 650

**Telephone:** 408-924-3550

**Email:** schoolofmanagement@sjsu.edu

**Website:** www.sjsu.edu/mgmt

### Professors

Nancy Da Silva, Chair

Camille Johnson

Susanna Khavul

Stanley B. Malos

Gita Mathur

Simon Rodan

Meghna Virick

Robert C. Wood



**Associate Professors**

Gretchen Vogelsang Lester  
 Monica Gavino  
 Elizabeth Mullen  
 Elisa Mattarelli  
 Sumita Raghuram  
 Alaka Rao  
 Chunlei Wang

**Assistant Professors**

Thomas Altura  
 Matthew Maguire

**Undergraduate****Business Administration, Human Resource Management Concentration, BS**

The program offered by the School of Management provides the academic foundation for careers concerned with activities related to creating and sustaining the competitive advantage of organizations through the effective management of human capital. This area of study is concerned with both the strategic and current day-to-day activities in areas such as performance management, human resource planning and information systems, recruitment and staffing, training and employee development, compensation and benefits and union-management relations in an environment that changes rapidly due to competition, globalization, diversity, technology and laws. The program qualifies graduates for positions in private sector, non-profit and public sector organizations.

- Program Learning Outcomes

**Summary of Degree Units**

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	18
University Electives	7
<b>Total</b>	<b>120</b>

**University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

**Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Concentration Requirements for Human Resource Management must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (or equivalent)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- ENGL 100WB - Written Communication: Business 3 *unit(s)* (Z)
- COMM 100W - Writing Workshop: Writing for Influence 3 *unit(s)* (Z)
- LLD 100WB - Writing Workshop for Business Students 3 *unit(s)* (Z)

## Major Requirements (61 units)

### Core Courses (43 units)

### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 *unit(s)* (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 *unit(s)*
- BUS1 21 - Managerial Accounting 3 *unit(s)*
- BUS3 80 - Legal Environment of Business 3 *unit(s)*
- BUS2 90 - Business Statistics 3 *unit(s)* (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 *unit(s)*

## Upper Division Business Fundamentals Courses (15 units)

- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- BUS5 140 - Fundamentals of Operations Management 3 *unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*
- BUS1 170 - Fundamentals of Finance 3 *unit(s)*
- BUS2 190 - Quantitative Business Analysis 3 *unit(s)*

## Upper Division Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 *unit(s)*
- BUS4 188 - Business Systems and Policy 3 *unit(s)*
- BUS3 189 - Strategic Management 3 *unit(s)*
- PHIL 186 - Professional and Business Ethics 3 *unit(s)* (S)
- One non-business global perspectives course in Area V 3 *unit(s)*

## Concentration Requirements (18 units)

Additionally, to qualify for a baccalaureate degree in business administration with a Human Resource Management concentration, all courses in the concentration must be completed with a grade of "C- or Better".

## Required Courses (15 units)

- BUS3 150 - Fundamentals of Human Resource Management 3 *unit(s)*
- BUS3 154 - Workforce Planning, Staffing and Training 3 *unit(s)*
- BUS3 157 - Legal Issues in Human Resource Management 3 *unit(s)*
- BUS3 158 - Compensation and Reward Systems 3 *unit(s)*
- BUS3 159 - Senior Seminar in Human Resource Management 3 *unit(s)*

## Additional Courses (3 units)

Complete one course from:

- BUS3 151 - Labor Relations 3 *unit(s)*
- BUS3 152 - Human Resources Analytics 3 *unit(s)*
- BUS3 153 - Management of Diversity 3 *unit(s)*
- BUS3 155 - Performance Management and Development 3 *unit(s)*
- BUS3 156 - International Issues in Human Resource Management 3 *unit(s)*

## University Electives (7 units)

## Total Units Required (120 units)

# **Business Administration, Management Concentration, BS**

The Management Program, offered by the School of Management, prepares graduate for successful and innovative careers. We emphasize fundamental principles underlying high-performance in diverse organizations at the team, company, and industry levels. We teach analytical tools, decision-making processes, and best practices for leading and managing workplaces that are legally compliant, ethical, and financially sustainable. Attention is focused on evidence-based management, competitive strategy, behavioral science, and stakeholder management.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements	35
Major Preparation	17
Major Core Requirements	43
Concentration Requirements	18
University Electives	7
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

All courses in the Concentration Requirements for Management must be completed with a grade of "C- or better". The following Preparation for the Major and Required for the Major courses must be completed with a grade of "C or better": ENGL 2, MATH 71, BUS1 20, BUS2 90.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (35 units)**

### **Core Lower Division General Education (24 units)**

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (Or equivalent.)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (Transfer students with MATH 30 (C or better) may use this in lieu of MATH 71.)

## Complete One Course From:

- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- ENGL 100WB - Written Communication: Business 3 unit(s) (Z)
- LLD 100WB - Writing Workshop for Business Students 3 unit(s) (Z)

## Major Requirements (67 units)

### Core Courses (43 units)

#### Lower Division Courses (13 units)

- BUS3 10 - Discovering Business 3 unit(s) (0 units required) (BUS3 10 is not required, but recommended)
- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 21 - Managerial Accounting 3 unit(s)
- BUS3 80 - Legal Environment of Business 3 unit(s)
- BUS2 90 - Business Statistics 3 unit(s) (Transfer students with STAT 95 (C or better) may use this in lieu of BUS2 90.)
- BUS4 91L - Computer Tools for Business 1 unit(s)

#### Upper Division Business Fundamentals Courses (15 units)

- BUS1 170 - Fundamentals of Finance 3 unit(s)
- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS2 190 - Quantitative Business Analysis 3 unit(s)
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 unit(s)
- BUS5 140 - Fundamentals of Operations Management 3 unit(s)

#### Upper Division Business Integration and Perspectives Courses (15 units)

- BUS5 187 - Global Dimensions of Business 3 unit(s)
- BUS4 188 - Business Systems and Policy 3 unit(s)
- BUS3 189 - Strategic Management 3 unit(s)
- PHIL 186 - Professional and Business Ethics 3 unit(s) (S)
- One non-business global perspectives course in Area V 3 unit(s)

## Concentration Requirements (18 units)

Additionally, to qualify for a baccalaureate degree in business administration with a Management concentration, all courses in the concentration must be completed with a grade of "C- or Better".

### Required Courses (9 units)

- BUS3 161A - Applied Organizational Behavior 3 *unit(s)*
- BUS3 161B - Organization Theory 3 *unit(s)*
- BUS3 166 - Business, Government, & Society 3 *unit(s)*

### Additional Courses (9 units)

#### Complete One Course From:

- BUS3 150 - Fundamentals of Human Resource Management 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*

#### Complete Two Courses From:

- BUS2 191 - Decision Making Under Uncertainty 3 *unit(s)*
- BUS2 195A - Spreadsheet Modeling 3 *unit(s)*
- BUS2 195B - Data Visualization 3 *unit(s)*
- BUS3 149 - Negotiation and Conflict Resolution 3 *unit(s)*
- BUS3 152 - Human Resources Analytics 3 *unit(s)*
- BUS3 153 - Management of Diversity 3 *unit(s)*
- BUS3 154 - Workforce Planning, Staffing and Training 3 *unit(s)*
- BUS3 155 - Performance Management and Development 3 *unit(s)*
- BUS3 169A - Honors Seminar 3 *unit(s)*
- BUS5 141 - Procurement and Supply Management 3 *unit(s)*
- BUS5 142 - Total Quality Management 3 *unit(s)*
- BUS5 148 - Sustainable Operations Management 3 *unit(s)*
- BUS5 144 - Supply Chain Management 3 *unit(s)*
- BUS5 145 - Global Operations Strategy 3 *unit(s)*
- BUS5 147 - Service Operations Management 3 *unit(s)*
- BUS5 162 - International and Comparative Management 3 *unit(s)*
- BUS3 165 - Analysis and Design of Teams 3 *unit(s)*
- BUS5 165A - Global Leadership 3 *unit(s)*
- BUS5 165B - Leadership & Innovation Practicum 3 *unit(s)*
- BUS5 169B - Honors Practicum in Organization and Management 3 *unit(s)*
- BUS5 181 - Introduction to Entrepreneurship 3 *unit(s)*
- BUS5 183 - Global Entrepreneurship 3 *unit(s)*

### University Electives (7 units)

### Total Units Required (120 units)

*BUS3 10 - Discovering Business*



3 unit(s)

Simulates setting up a small business to explore the many facets of an enterprise (marketing, accounting, finance, management, information systems, etc.). Through self-assessment and readings, directs students toward career paths that best reflect their personal aptitudes and interests.

**Prerequisite(s):** Highly recommended for SJSU freshman business majors, optional for others.

**Grading:** Graded

*BUS3 12 - Managing My life*

3 unit(s)

An interdisciplinary course in personal development that introduces basic concepts and practical skills for improving and enhancing life during college and beyond. The course includes how to succeed in college, manage one's finances, plan one's career, manage stress, and increase overall happiness and well-being.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*BUS3 80 - Legal Environment of Business*

3 unit(s)

Understand the judicial system and dispute resolution with emphasis on the role of law in purchasing, contracting and administering a business as it impacts the firm's constituencies and society as a whole.

**Prerequisite(s):** Sophomore status.

**Grading:** Graded

*BUS3 92 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*BUS3 148 - E-Commerce Management*

3 unit(s)

Includes all aspects of management of e-commerce businesses. Topics include business planning, business-to-business and business-to-consumer sectors, entrepreneurship, and small business management.

**Grading:** Graded

*BUS3 149 - Negotiation and Conflict Resolution*

3 unit(s)

Provides conflict resolving and negotiation techniques. Case studies demonstrate applications of these methods in real world business, personal, interpersonal and international situations. Emphasis on acquiring and improving skills.

**Grading:** Graded

*BUS3 150 - Fundamentals of Human Resource Management*

3 unit(s)

Theories, concepts and processes of human resource management; specific topics include EEO, employee motivation, job analysis and work design, strategic human resource planning, recruitment and selection, talent assessment and development, performance management, compensation and benefits, OSH, and employee rights and discipline.

**Prerequisite(s):** BUS 91L or instructor consent. Upper division standing. Lower Division Business Pool or Business Minor.

**Grading:** Graded

*BUS3 151 - Labor Relations*

3 unit(s)

Private sector union-management relations; labor history, basic labor economics. Legislative, judicial, administrative issues in collective bargaining; contract negotiations, grievance procedures, dispute resolution. Overview of public sector collective bargaining and comparative labor relations. Current trends, including labor-management cooperation.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*BUS3 152 - Human Resources Analytics*

3 unit(s)

Examines how Human Resource (HR) professionals can use data analytics to inform HR decisions. Includes descriptive, predictive, and prescriptive analytics. Concepts are applied using software tools such as Qualtrics, SPSS, Excel, and Tableau.

**Grading:** Graded

*BUS3 153 - Management of Diversity*

3 unit(s)

Cross-cultural differences in effective HR management; organizational culture, cross-cultural communication, opportunity structures, organizational change; legal compliance and planning models such as Equal Employment Opportunity and Affirmative Action; conflict resolution strategies; dealing with internal and external compliance agencies.

**Prerequisite(s):** BUS3 150 or instructor consent. Upper division standing.

**Grading:** Graded

*BUS3 154 - Workforce Planning, Staffing and Training*

3 unit(s)

Examines basic concepts, strategies and current issues in recruitment, talent acquisition, selection and training. Involves use of computer tools to analyze impacts of legal compliance, diversity, technology, outsourcing, restructuring and downsizing on effective management of human resources.

**Prerequisite(s):** BUS 150 and COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

**Grading:** Graded

*BUS3 155 - Performance Management and Development*

3 unit(s)

Assessment and performance management of individuals, groups and organizations in a rapidly changing environment. Explores need for change management skills such as organizational development, career development and coaching to assess and improve the talent base of organizations. Project required.

**Prerequisite(s):** BUS 150, COMM 100W or ENGL 100WB or LLD 100WB.

**Grading:** Graded

*BUS3 156 - International Issues in Human Resource Management*

3 unit(s)

Personnel practices in international context; cross-cultural management, human resource planning, recruitment and selection, expatriation/repatriation, training, performance appraisal, compensation and benefits, labor relations as experienced by multinational corporations; comparative human resource management.

**Pre/Corequisite(s):** BUS3 150 or instructor consent. Upper division standing.

**Grading:** Graded

*BUS3 157 - Legal Issues in Human Resource Management*

3 unit(s)

Legal aspects of the employment relationship, including employment at will; contract, privacy, public policy, and whistleblower exceptions; EEO and affirmative action; prohibitions against discrimination and harassment; arbitration, trade secrets and non-competition agreements; occupational safety/health; compensation, benefit and family leave laws. Project required.

**Prerequisite(s):** BUS3 80, BUS3 150 and BUS100W or COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing. Allowed Declared Major: Bus Admin/Human Resource Mgmt or Business Minor.

**Grading:** Graded

*BUS3 158 - Compensation and Reward Systems*

3 unit(s)

Theories and practices of compensation and benefits; strategies to establish and administer equitable pay structures; job analysis, and evaluation, salary surveys, pay and motivation, skill-based pay systems, long-term and short-term performance plans, merit increase, bonus, stock options, profit-sharing, executive compensation and computer tools in compensation.

**Prerequisite(s):** BUS4 91L and BUS3 150. Upper division standing.

**Grading:** Graded

*BUS3 159 - Senior Seminar in Human Resource Management*

3 unit(s)

Extension and integration of student knowledge, skills and abilities in strategic HRM; critical analysis of current HRM issues; exploration of HR career options; analysis of existing organization to develop methods of improving HRM decision-making in a real-world setting.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB; BUS3 150; BUS3 154, BUS3 157 and BUS3 158. Allowed Declared Major: Bus Admin/Human Resource Mgmt. Graduating Senior Status.

**Grading:** Graded

*BUS3 160 - Fundamentals of Management and Organizational Behavior*

3 unit(s)

Provides a foundation for major topics in management and organizational behavior by surveying theories and practices relating to managerial roles, organizational cultures, fundamental strategic issues, planning, team building, communication, motivation, leadership, decision-making, control, structure and change.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*BUS3 161A - Applied Organizational Behavior*

3 unit(s)

Focuses on high-level application, analysis, synthesis and evaluation of group dynamics, interpersonal communication, motivation, leadership, perception and attitudes, individual power and politics, conflict and stress management. In-depth emphasis on key theories plus interpersonal managerial skills.

**Prerequisite(s):** BUS3 160, COMM 100W or ENGL 100WB or LLD 100WB.

**Grading:** Graded

*BUS3 161B - Organization Theory*

3 unit(s)

Managing organization-wide structural and cultural changes leading to designs that enhance organizational effectiveness. Change issues of managing growth, resistance, intervention phases, crisis management, intergroup conflict/power are combined with design issues of balancing innovation and predictability, decentralization and centralization.

**Prerequisite(s):** BUS3 160, COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

**Grading:** Graded

*BUS3 165 - Analysis and Design of Teams*

3 unit(s)

Team formation, team structures, team communication, team dynamics, team performance, and team management challenges prevalent in organizations. Study of team types from a broad selection of business functions and industry contexts.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*BUS3 166 - Business, Government, & Society*

3 unit(s)

Analysis of the American business system in terms of socio-economic and political constraints imposed upon business organizations by external, physical, legal, political, social and economic environments. Special reference to ethical issues in business, corporate social responsibility, profit maximization and countervailing powers in a pluralistic society.

**Prerequisite(s):** COMM 100W or ENGL 100WB or LLD 100WB. Upper division standing.

**Grading:** Graded

*BUS3 169A - Honors Seminar*

3 unit(s)

This course will introduce some of the seminal theories in management and related fields. The seminar will provide a variety of views on organizations, organizational life and the way organizations function. The course will be cross-disciplinary, drawing on readings about organizations from a variety of sources and disciplines. Students will be required to apply theoretical concepts to their own work, field study, or internship experiences.

**Prerequisite(s):** BUS3 160 or BUS3 161B.

**Grading:** Graded

*BUS3 180D - Indiv St Org Mgmt*

1-6 unit(s)

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*BUS3 186 - Professional and Business Ethics*

3 unit(s)

Interdisciplinary study of types of ethical problems which arise within the contexts of business occupations and professions. Major ethical theories, critique of economic and criminal justice. Focus is on issues of justice and equality in the U.S. Case studies.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*BUS3 189 - Strategic Management*

3 unit(s)

Integrative capstone seminar analyzing interrelationships of managerial decisions/actions within and between the firm and its environment. Applies multi-disciplinary techniques to diagnose and recommend actions appropriate to specific company situations, using case method.

**Prerequisite(s):** Any 100W. Restricted to students who completed the Jack Holland Student Success Center graduation application process.

**Grading:** Graded

*BUS3 192 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

## Teacher Preparation

- Preparation and Tests
- Becoming an Elementary School Teacher
- Becoming a Secondary School Teacher
- Becoming a Special Education Teacher

A California teaching credential is a license to teach in California public schools. A single subject credential is primarily for those who intend to teach in a designated subject area at the secondary (high school) or middle school level. A multiple subject credential is primarily for those intending to teach multiple subjects in the elementary or middle school level. The Education Specialist Credential is for individuals who want to become special educators.

A description of the different options is outlined on these pages. The process, requirements, and application materials are described in detail on each program's website.

## Preparation and Tests

Credential	Undergraduate Preparation	Tests	Postbaccalaureate Preparation
Pre-School	Consult Child and Adolescent Development department	None	None
Elementary (K-8)	Preparation to teach in any K-8 grade in one of the following programs is strongly recommended-Child and Adolescent Development, Creative Arts, Environmental Studies, Liberal Studies, Natural Science, or Social Science	CBEST, CSET for Multiple Subject	Multiple Subject Credential program
High School	Complete a Single Subject Matter Preparation program or pass CSET	CBEST	Single Subject Credential program
Special Education	Complete a Multiple or Single Subject Matter Preparation program and/or demonstrate subject matter competence by CSET	CBEST	Consult Special Education department
Bilingual/ESL Authorization (Grades K-12)		CBEST, CSET and Language Proficiency and CSET LOTE III Test in Spanish	Multiple Subject Teaching Credential program with Bilingual Authorization
College	Complete a major in the subject that you want to teach	Consult major department	PhD (or MA/MS for some community colleges)

## Becoming an Elementary School Teacher

## 1. Seek Subject Matter Preparation

As an undergraduate student consider one of the following programs to strengthen your preparation:

- Department of Child and Adolescent Development
- Department of Environmental Studies
- Department of History
- Department of Humanities
- Each of the above departments has majors with a teacher preparation option that was designed to provide you the opportunity to learn the content you will apply as you teach in grades K-8.

## 2. Apply for Admission to the Multiple Subject Credential Program

- Applications to the Credential Program are accepted for Fall, Spring, and Summer semesters.
- Requirements include:
  - Admission to Graduate Studies at San José State University
  - Grade point average (GPA) of approximately 2.87 (see advisor)
  - Passing score on California Basic Education Skills Test (CBEST)
  - Pre-professional experience in a K-8 public school setting is a requirement for admission to the Multiple Subject Credential Program. This requirement can be met either through fieldwork hours completed as part of a college course, experience in a K-8 classroom, or a combination of the above. Experience observing/assisting or teaching in a Title 1 or "low performing" school is encouraged. Experience in a private school setting or at the preschool level cannot be included as part of 50-hour minimum for pre-professional experience.
  - Passing score on California Subject Examinations for Teachers (CSET): Multiple Subject Tests.
  - Completion of Multiple Subject Credential Program Department Application. See the advisement guide.

## 3. Complete a professional Preparation Program leading to the Preliminary Multiple Subject Credential.

Program pathways include Bilingual Authorization, Flexible, Concurrent, Teacher Educator, Middle Level Emphasis and Critical Research Academy.

The following requirements apply to all of the above pathways:

**PRELIMINARY CREDENTIAL**

- Bachelor's degree from a regionally accredited college or university and program. Bachelor's degree must be granted on the same day or after university graduation.
- Prerequisites: Certificate of Clearance for personal and professional fitness
- Foundations: EDEL 102 and EDEL 103
- Dual language: EDTE 162
- Curriculum: EDEL 108A, EDEL 108B, EDEL 108C and EDEL 108D
- Student teaching: EDEL 143A - Beginning Student-Teaching (Phase I) and EDEL 143B - Advanced Student-Teaching (Phase II), including EDTE 246
- In addition, before or during the program, students must take and pass the following courses or their equivalents:
  - EDTE 190 - Health Education for the Classroom Teacher
  - EDSE 192A - Including and Supporting Students
  - \*Program completers must also take and pass -
    - The Reading Instruction Competence assessment (RICA)
    - The Performance Assessment for California Teachers (PACT)
    - Satisfaction of the U.S. Constitution requirement
    - Level I Technology requirement
    - CPR - Adult, Child, Infant
- When ready, candidates should visit Credential Services to review requirements for the Multiple Subject Credential application process.

**PROFESSIONAL CLEAR CREDENTIAL**

- o Employed teachers need to continue professional development for the advanced credential following completion of the Preliminary Credential. To meet the requirements for the advanced teaching credential check with the Commission on Teacher Credentialing (CTC) at [www.ctc.ca.gov](http://www.ctc.ca.gov).

## Becoming a Secondary School Teacher

### 1. Complete a Single Subject Matter Preparation Program

Programs with asterisks (\*) are majors that are fully compliant with the requirements of the No Child Left Behind (NCLB) Act. Students in other majors may have to take the California Subject Exam for Teachers (CSET). See your department advisor for your particular course of study.

Major	Credential
Art	Art
Biology*	Science: Biological Sciences
Chemistry*	Science: Chemistry
Earth Science*	Science: Geosciences
Economics	Social Science
English*	English
French	World Language: French
Geography	Social Science
History	Social Science
Japanese	World Language: Japanese
Journalism	English
Kinesiology	Kinesiology
Mandarin	World Language: Mandarin
Mathematics*	Mathematics
Meteorology*	Science: Physics
Music	Music
Physical Education	Kinesiology
Physics*	Science: Physics
Political Science	Social Science



Major	Credential
Social Sciences	Social Science
Spanish	World Language: Spanish
Speech Communication	English
Theater Arts	English

Students who have completed or wish to complete another major may consult with the teacher preparation advisor from one of the listed programs to determine possible equivalence to Single Subject Matter Competency.

- Apply for Admission to the Single Subject Credential Program  
Applications to the Credential Program are accepted for both Fall and Spring semesters. Visit the program website at [www.sjsu.edu/teachered](http://www.sjsu.edu/teachered) for information on how to apply. Please note that the process of meeting application requirements can take several months to complete, so plan ahead.
- Complete a Professional Preparation Program leading to a single subject credential. Requirements include:

#### **PRELIMINARY CREDENTIAL (LEVEL 1)**

Non-renewable, valid for a maximum of five years.

- Bachelor's degree from a regionally accredited college or university
- Prerequisite: Certificate of Clearance of personal and professional fitness
- EDSC 162 - Language/Literacy Development of L2 Learners
- EDSC 172A - Social, Philosophical Multicultural Fdn
- EDSC 173 - Psychological Foundations of Secondary Teacher Education
- EDSC 246 - Learning Communities: Methods and Management
- EDEL 294 - Research and Practices in Health and Special Education
- EDSC 182 - Assessment and Evaluation
- EDSC 184X - Student Teaching I
- Phase II Student Teaching: 184Y and 184Z in disciplinary departments
- CalTPA
- Subject-specific methods
- CPR (adult, infant and child)
- U.S. Constitution requirement
- Technology requirement

## **Becoming a Special Education Teacher**

- Apply for admission to the Education Specialist Preliminary Teaching Credential: Early Childhood Special Education Credential, Education Specialist: Mild/Moderate Disabilities Credential, Education Specialist: Moderate/Severe Disabilities Credential. Requirements include:
  - Bachelor's degree from a regionally accredited college or university and program.
  - Admission to San José State University.
  - Grade Point average (GPA) of 2.75, or better.
  - Passing score on the California Basic Education Skills Test (CBEST).
  - Passing score on the California Subject Examinations for Teachers (for the Education Specialist: Mild/Moderate Disabilities Credential and Education Specialist: Moderate/Severe Disabilities Credential)
  - Satisfaction of the Constitution requirement.
  - Completion of 45 hours of verifiable, supervised experience with children in an instructional setting

- Completion of Department of Special Education application with all required documents
  - Certificate of Clearance for personal and professional fitness.
2. Complete a Professional Preparation Program leading to the Educational Specialist Credential  
To be endorsed for the credential, the following requirements apply to all options:

**PRELIMINARY CREDENTIAL**

- Satisfied all course requirements for the credential option (see Special Education section of the Catalog).
- Grades of "B" or better in all credential courses/GPA of 3.0
- Proof of competence in Reading Instruction by passing the RICA, unless having a valid California Multiple Subject Credential or Single Subject Credential.
- Satisfactory Dispositions Evaluations

**PROFESSIONAL INDUCTION PLAN**

- To be endorsed for the credential, the following requirements apply to all options:
- Candidates must hold a valid Preliminary Education Specialist Credential.
- Candidates must apply to the university and department for the Clear Induction Program and complete an Induction program of studies.
- Complete a program of studies and experiences (see Special Education section of Catalog).
- Professional portfolio demonstrating advanced knowledge and skills.
- Grades of "B" or better in all courses for credential.

# Teacher Education Admissions Requirements

## Admissions Requirements

The following chart identifies admission requirements for all degree, credential and certificate programs in the Teacher Education Department. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE (Graduation Admissions and Program Evaluations).

Teacher Education Admissions Requirements	Multiple Subjects Credential Program - ONLY	Combined Multiple Subjects Credential Program / Master of Arts Program - Curriculum & Instruction	Elementary Education / Master of Arts Program (LACES)	Single Subject Credential Program	Single Subject Credential / Intern Program
Calstate.edu/apply Application	X	X	X	X	X
Official Transcripts (all schools) to GAPE	X	X	X	X	X
Application Fee	X	X	X	X	X
International Students Non-English Language Degree Addition Requirements	X	X	X	X	X
<b>DEPARTMENTAL REQUIREMENTS</b>					
GPA (minimum)	2.75	2.75	3.00	2.75	2.75
Application Checklist	X	X			
Application Form	X	X	X	X	X
Resume	X	X	X	X	X
Statement of Purpose	X	X			
Cover Letter			X		
Letters of Recommendation (3)	X	X		X	X
CBEST (Basic Skills Requirement)	X	X		X	X

Second Set of Transcripts to TED	X	X	X	X	X
Pre-Professional Experience	45 hours	45 hours		45 hours	45 hours
CSET - Multi-Subject Exam	X	X			
CSET - Single Subject (or waiver based on coursework) *				X	X
Subject Matter Competency (SMC) Interview & signed form				X	X
Current Teacher Credential			X		
United States Constitution Requirement					X
Department Administered Writing Task				X	X
Interview	X	X			X

## Requirements for Program Continuation / Advancement to Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Applicants must also

- complete successfully 9 units of graduate coursework in the Elementary Education program;
- demonstrate aptitude for advanced work in professional education as measured by instructor appraisals, evaluation of previous academic work, recommendation by qualified professionals, or other assessments;
- meet with a graduate advisor to plan a formal course of study. The MA degree approved programs are individually designed to meet specific student objectives.

The proposed graduate program must be approved by the graduate coordinator before the student may be considered a candidate for the MA degree.

## Departmental Requirements

Teacher Education Admissions Requirements	Multiple Subject Credential - ONLY	Combine Multiple Subject Credential Program / Master of Art Program - Curriculum & Instruction	Elementary Education / Master of Art Program (LACES)	Single Subject Credential Program	Single Subject Credential Program / Intern Program
GPA (minimum)	3	3	3	3	3
CSET - Multi-Subject Exam	X	X			
CSET - Single Subject (or waiver based on coursework)				X	X
Certificate of Clearance	X	X		X	X
Current Teacher Credential			X		
United States Constitution Requirement				X	X
Current Negative TB Test	X	X		X	

# General Education Requirements

## General Education Requirements

A university brings together many separate areas of learning, yet it is more than just a collection of specialized disciplines. The SJSU General Education Program incorporates the development of skills, the acquisition of knowledge, and the integration of knowledge through the study of facts, issues, and ideas. Regardless of major, all who earn undergraduate degrees should share common educational experiences, as they become university scholars. In combination with major, minor, and elective courses, the General Education curriculum should help students attain those attributes found in an educated person.

## General Education Requirements

## General Education Core

## Lower Division Requirements

Students must complete 39 units of Core GE courses.

### A. English Language Communication and Critical Thinking

9 units

Complete one course each in Oral Communication, Written Communication IA, and Critical Thinking and Writing.

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/HUM 1B/HUM 2A/HUM 2B) is completed with grades of "C- or better."

\*\* = Must complete sequence

#### 1. Oral Communication

Oral Communication courses should cultivate an understanding of the social, psychological, political and practical significance of communication, with special emphasis on the roles of public communication in a free society.

- CCS 74 - Public Address 3 *unit(s)*
- COMM 20 - Public Speaking 3 *unit(s)*
- COMM 20N - Public Speaking for Nonnative Speakers 3 *unit(s)*
- COMM 40 - Argumentation and Advocacy 3 *unit(s)*
- HUM 2A - Honors - Modern World Cultures A 6 *unit(s)* ^ \*\*

#### 2. Written Communication I

Written communication 1A courses should cultivate an understanding of the writing process and the goals, dynamics, and genres of written communication, with special attention to the nature of writing at the university.

- ENGL 1A - First Year Writing 3 *unit(s)*
- ENGL 1AS - First-Year Writing: Stretch English II 3 *unit(s)*
- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* ^ \*\*

### 3. Critical Thinking and Writing

Critical thinking courses should help students learn to recognize, analyze, evaluate, and produce reasoning.

- ANTH 13 - Archaeology 3 *unit(s)*
- COMM 41 - Critical Decision Making 3 *unit(s)*
- COMM 45 - Media and Culture 3 *unit(s)*
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)*
- HIST 50 - Historical Process: Understanding Historical Reasoning 3 *unit(s)*
- HUM 2B - Honors - Modern World Cultures B 6 *unit(s)* ^ \*\*
- HUM 80 - Reading the World 3 *unit(s)*
- LING 21 - Language and Thinking 3 *unit(s)*
- LING 24 - Language Variation in Space, Time, & Culture 3 *unit(s)*
- PHIL 57 - Logic and Critical Reasoning 3 *unit(s)*
- POLS 20 - Controversial Legal Issues 3 *unit(s)*

## B. Scientific Inquiry and Quantitative Reasoning

9 units

Complete at least one 3-unit course in Physical Science, Life Science, and Mathematical Concepts.

At least one lab course (L) must be included.

### 1. Physical Science

In Science courses, students should master sufficiently essential quantitative and qualitative skills that are necessary to understand scientific knowledge and methods. Students should be able to incorporate scientific knowledge into the workplace and everyday life experiences.

#### **\*Intensive Science**

Students who have completed the Intensive Science courses with a "C- or better", will be allowed to use these courses to fulfill the requirement in B1/B3 or B2/B3. Students may petition to have (1) grades below C- (very rarely approved), or (2) other Intensive Science courses not on the list approved as intensive science courses. Additionally, the following packages of courses, all completed with "C- or better", will satisfy Areas B1, B2, and B3: Two courses from PHYS 50, PHYS 51, or PHYS 52, and CHEM 1A; or PHYS 2A and PHYS 2B and CHEM 1A; or CHEM 1A and CHEM 1B, plus a physics course. See details on the Office of Undergraduate Education's Student Petitions website.

- ASTR 10 - Descriptive Astronomy 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (L) \*
- CHEM 1B - General Chemistry 5 *unit(s)* (L) \*
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (L)
- ENGR 5 - Science of High Technology 3 *unit(s)*
- GEOG 1 - Geography of Natural Environments 3 *unit(s)*
- GEOL 1 - General Geology 4 *unit(s)* (L)

- GEOL 3 - Planet Earth 3 *unit(s)*
- GEOL 6 - Geology of California 3 *unit(s)*
- GEOL 7 - Earth, Time and Life 4 *unit(s)* (L)
- GEOL 9 - Earth Disasters 4 *unit(s)* (L)
- METR 10 - Weather and Climate 3 *unit(s)*
- METR 12 - Global Warming: Science and Solutions 3 *unit(s)*
- NUFS 1A - Physical Science of Food 3 *unit(s)*
- PHYS 1 - Elementary Physics 3 *unit(s)*
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (L) \*
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (L) \*
- PHYS 23 - Animation Physics 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (L) \*
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (L) \*
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (L) \*

## 2. Life Science

### \*Intensive Science

Students who have completed the Intensive Science courses with a "C- or better", will be allowed to use these courses to fulfill the requirement in B1/B3 or B2/B3. Students may petition to have (1) grades below C- (very rarely approved), or (2) other Intensive Science courses not on the list approved as intensive science courses. Additionally, the following packages of courses, all completed with "C- or better", will satisfy Areas B1, B2, and B3: Two courses from PHYS 50, PHYS 51, or PHYS 52, and CHEM 1A; or PHYS 2A and PHYS 2B and CHEM 1A; or CHEM 1A and CHEM 1B, plus a physics course. See details on the Office of Undergraduate Education's Student Petitions website.

- ANTH 12 - Introduction to Human Evolution 3 *unit(s)*
- BIOL 10 - The Living World 3 *unit(s)*
- BIOL 20 - Ecological Biology 3 *unit(s)* (L)
- BIOL 21 - Human Biology 3 *unit(s)* (L)
- BIOL 30 - Principles of Biology I 4 *unit(s)* (L) \*
- BIOL 31 - Principles of Biology II 4 *unit(s)* (L) \*
- BIOL 65 - Human Anatomy 4 *unit(s)* (L) \*
- BIOL 65O - Human Anatomy 4 *unit(s)* (L) \*
- BIOL 66 - Human Physiology 5 *unit(s)* (L) \*
- ENVS 10 - Life on a Changing Planet 3 *unit(s)*
- GEOL 8 - The Age of the Dinosaurs 3 *unit(s)*
- GLST 1B - Introduction to Global Studies 3 *unit(s)*
- MICR 20 - General Bacteriology 5 *unit(s)* (L) \*
- NUFS 16 - Science, Physiology, and Nutrition 3 *unit(s)*

## 3. Laboratory

The following courses meet the Lab requirement only.

- ASTR 102 - Astronomy Lab 1 *unit(s)* (L)
- BIOL 65L - Anatomy Lab for Transfer Students 1 *unit(s)*
- BIOL 150 - Field Studies in Natural History 1-2 *unit(s)* (L)
- GEOL 150 - Field Studies in Natural History 1-2 *unit(s)* (L)



- GEOL 4L - Earth Systems Lab 1 *unit(s)* (L)
- PHYS 1L - Elementary Physics Lab 1 *unit(s)* (L)

#### 4. Mathematical Concepts

Mathematical concepts courses enable students to use numerical and graphical data in personal and professional judgments and in coping with public issues.

##### **\*Intensive Math**

Students who have not completed a course satisfying Area B4, but have completed MATH 30, MATH 30P , MATH 30PL , MATH 31, MATH 32, MATH 70, or MATH 71, with a grade of "C- or better" will be allowed to use one of these courses to fulfill the Area B4 requirement.

- JS 15 - Introductory Statistics in Justice Studies 3 *unit(s)*
- LING 26 - Quantitative Reasoning in Linguistic Diversity 3 *unit(s)*
- MATH 1 - Mathematical Reasoning 3 *unit(s)*
- MATH 10 - Mathematics for General Education 3 *unit(s)*
- MATH 10A - Mathematics in Art and Music 3 *unit(s)*
- MATH 10D - Probability, Data Science, Ethics, and You 3 *unit(s)*
- MATH 10P - Mathematics in Politics 3 *unit(s)*
- MATH 12 - Number Systems 3 *unit(s)*
- MATH 18A - College Algebra 3 *unit(s)*
- MATH 19 - Precalculus 5 *unit(s)*
- MATH 30 - Calculus I 3 *unit(s)* \*
- MATH 30X - Calculus I 3 *unit(s)*
- MATH 31 - Calculus II 4 *unit(s)* \*
- MATH 31X - Calculus II 4 *unit(s)*
- MATH 32 - Calculus III 3 *unit(s)* \*
- MATH 32X - Calculus III 3 *unit(s)*
- MATH 70 - Finite Mathematics 3 *unit(s)* \*
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* \*
- PH 67 - Introductory Health Statistics 3 *unit(s)*
- PHIL 9 - Mathematics and Logic for General Education 3 *unit(s)*
- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)*
- SOCS 15 - Statistical Applications in the Social Sciences 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)*
- UNVS 15F - Statway Part A: Statistics-Concepts & Methods 3 *unit(s)*
- MATH 15F - Statway Part A: Statistics-Concepts & Methods 3 *unit(s)*
- UNVS 15S - Statway Part B: Statistics-Concepts & Methods 3 *unit(s)*
- MATH 15S - Statway Part B: Statistics-Concepts & Methods 3 *unit(s)*

#### C. Arts and Letters

9 units

Effective Fall 2014, Area C3 has been discontinued. Completion of 9 units in Area C is still required.

In Area C, complete no fewer than 9 semester units, with at least one course in the Arts (C1) and one in the Letters (C2).

Arts and Letters courses should give students knowledge and understanding of significant works of the human intellect and imagination. Courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives.

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/HUM 1B/HUM 2A/HUM 2B) is completed with grades of "C- or better."

\*\* Must complete sequence

### **\*Intensive Music**

Students who have completed the Intensive Music courses, MUSC 4A, MUSC 4B and MUSC 12, with a "C or better", will be allowed to use these courses to fulfill the requirements of Area C. Students may petition to have (1) grades below C (very rarely approved), or (2) other Intensive Music courses not on the list approved as intensive music courses. See details on the Office of Undergraduate Education's Student Petitions website.

## 1. Arts

- AMS 1A - American Cultures to 1877 6 *unit(s)* \*\*
- ARTH 15 - Intro to Visual Culture 3 *unit(s)*
- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)*
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)*
- ARTH 70C - Arts of Asia 3 *unit(s)*
- ASIA 70C - Arts of Asia 3 *unit(s)*
- ARTH 72 - Design in Society 3 *unit(s)*
- CA 95 - Introduction to Queer Arts 3 *unit(s)*
- DANC 10 - Dance Appreciation 3 *unit(s)*
- FORL 25 - World Cultures Through Literature and Cinema 6 *unit(s)*
- HUM 1A - Honors - World Cultures and Societies A 6 *unit(s)* ^ \*\*
- KIN 68 - Visual Representations of Sport in Popular Culture 3 *unit(s)*
- MUSC 4A - Music Systems IVA 2 *unit(s)* \*
- MUSC 4B - Music Systems IVB 1 *unit(s)* \*
- MUSC 10A - Music Appreciation 3 *unit(s)*
- MUSC 10B - Introduction to Music 3 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)*
- PHIL 66 - Introduction to Aesthetics 3 *unit(s)*
- RTVF 10 - The Art of Film 3 *unit(s)*
- TA 5 - Acting 3 *unit(s)*
- TA 10 - Theatre Appreciation 3 *unit(s)*
- TA 55 - Intro to Design for Theatre 3 *unit(s)*

## 2. Letters

- AMS 1B - American Cultures 1877 to present 6 *unit(s)* \*\*
- CHIN 1A - Elementary Chinese 4 *unit(s)*
- CHIN 1B - Elementary Chinese 4 *unit(s)*
- CHIN 25A - Intermediate Chinese 4 *unit(s)*

- CHIN 25B - Intermediate Chinese *4 unit(s)*
- ENGL 1B - Argument and Analysis *3 unit(s)*
- ENGL 10 - Great Works of Literature *3 unit(s)*
- ENGL 20 - The Graphic Novel *3 unit(s)*
- ENGL 21 - Mystery and Detective Fiction *3 unit(s)*
- ENGL 22 - Fantasy and Science Fiction *3 unit(s)*
- ENGL 30 - Literature and the Environment *3 unit(s)*
- ENGL 40 - Contemporary World Fiction *3 unit(s)*
- ENGL 71 - Creative Writing *3 unit(s)*
- ENGL 78 - Introduction to Shakespeare's Drama *3 unit(s)*
- FORL 25 - World Cultures Through Literature and Cinema *6 unit(s)*
- FREN 1A - Elementary French *4 unit(s)*
- FREN 1B - Elementary French *4 unit(s)*
- FREN 25A - Intermediate French: Reading *4 unit(s)*
- FREN 25B - Intermediate French: Writing *4 unit(s)*
- GERM 1A - Elementary German *4 unit(s)*
- GERM 1B - Elementary German *4 unit(s)*
- GERM 25A - Intermediate German *4 unit(s)*
- GERM 25B - Intermediate German *4 unit(s)*
- HUM 1A - Honors - World Cultures and Societies A *6 unit(s)* ^ \*\*
- HUM 1B - Honors - World Cultures and Societies B *6 unit(s)* ^ \*\*
- ITAL 1A - Elementary Italian *4 unit(s)*
- ITAL 1B - Elementary Italian *4 unit(s)*
- JPN 1A - Elementary Japanese *4 unit(s)*
- JPN 1B - Elementary Japanese *4 unit(s)*
- JPN 25A - Intermediate Japanese *4 unit(s)*
- JPN 25B - Intermediate Japanese *4 unit(s)*
- LSTP 10 - Chronicles of Education *3 unit(s)*
- MUSC 12 - Medieval and Renaissance Music *3 unit(s)* \*
- PHIL 10 - Introduction to Philosophy *3 unit(s)*
- PHIL 61 - Moral Issues *3 unit(s)*
- PHIL 70A - Ancient Philosophy *3 unit(s)*
- PHIL 70B - Modern Philosophy *3 unit(s)*
- POLS 3 - Introduction to Political Thought *3 unit(s)*
- PORT 1A - Elementary Portuguese I *4 unit(s)*
- PORT 1B - Elementary Portuguese II *4 unit(s)*
- RELS 70 - Gods, Guns, Gurus, Grails-World Religion *3 unit(s)*
- RELS 90 - Bible History and Literature *3 unit(s)*
- HUM 90 - Bible History and Literature *3 unit(s)*
- JWSS 90 - Bible History and Literature *3 unit(s)*
- MDES 90 - Bible History and Literature *3 unit(s)*
- SPAN 1A - Elementary Spanish *4 unit(s)*
- SPAN 1B - Elementary Spanish *4 unit(s)*
- SPAN 25A - Intermediate Spanish *4 unit(s)*
- SPAN 25B - Intermediate Spanish *4 unit(s)*
- TA 13 - Great Comedies for Theatre *3 unit(s)*

## D. Social Sciences

9 units

Complete no fewer than 9 units in at least two different subject prefixes (for example, ANTH and POLS). For American Institutions credit, students may complete a course in D2 (US1) and/or D3 (US2, US3). Note: Some courses may require completion of a 2-semester sequence in order to receive American Institutions credit (AAS 33A, AAS 33B; CCS 10A, CCS 10B)

Social Science courses should increase the student's understanding of human behavior and social interaction in the context of value systems, economic structures, political institutions, social groups, and natural environments

^ = Eight GE areas, including third Area C, and all of American Institutions completed when the Humanities Honors sequence (HUM 1A/HUM 1B/HUM 2A/HUM 2B) is completed with grades of "C- or better."

\*\* = Must complete sequence

### 1. Human Behavior

Human Behavior courses will enable students to be able to recognize the interaction of social institutions, culture, and environment with the behavior of individuals.

- ANTH 11 - Cultural Anthropology 3 *unit(s)*
- CCS 30 - Race and Ethnicity in Public Space 3 *unit(s)*
- CHAD 75 - Imagination, Play and Adult Creativity 3 *unit(s)*
- CS 25 - The Digital World and Society 3 *unit(s)*
- ENGR 25 - The Digital World and Society 3 *unit(s)*
- COMM 10 - Communication and Human Relationships 3 *unit(s)*
- COMM 21 - Performing Culture and Society 3 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)*
- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)*
- GEOG 10 - Cultural Geography 3 *unit(s)*
- JOUR 50 - Navigating the News 3 *unit(s)*
- LING 20 - Nature of Language 3 *unit(s)*
- LING 24 - Language Variation in Space, Time, & Culture 3 *unit(s)*
- LING 25 - Languages of the World 3 *unit(s)*
- PH 15 - Human Life Span 3 *unit(s)*
- RECL 15 - Human Life Span 3 *unit(s)*
- PSYC 1 - Introduction to Psychology 3 *unit(s)*
- SOCI 1 - Introduction to Sociology 3 *unit(s)*
- WOMS 5Q - Gender, Race & Sexuality in Media 3 *unit(s)*
- WOMS 10 - Women, Gender, and Sexuality Studies 3 *unit(s)*

### 2. Comparative Systems

Courses in this area will enable students to compare and contrast two or more ethnic groups, cultures, regions, nations, or social systems.

- AAS 20 - Women of Color in the US 3 *unit(s)*
- WOMS 20 - Women of Color in the US 3 *unit(s)*

- AAS 25 - The Changing Majority: Power and Ethnicity in America 3 *unit(s)*
- AFAM 25 - The Changing Majority: Power and Ethnicity in America 3 *unit(s)*
- CCS 25 - The Changing Majority: Power and Ethnicity in America 3 *unit(s)*
- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* \*\*
- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* \*\*
- AMS 1A - American Cultures to 1877 6 *unit(s)* \*\*
- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* \*\*
- GEOG 12 - Global Geography 3 *unit(s)*
- HIST 1A - World History to 1500 3 *unit(s)*
- HIST 10A - Western Civilization 3 *unit(s)*
- HIST 10B - Western Civilization 3 *unit(s)*
- HIST 15 - Essentials of U.S. History 3 *unit(s)*
- HUM 2A - Honors - Modern World Cultures A 6 *unit(s)* \*\*
- POLS 2 - Introduction to Comparative Politics 3 *unit(s)*

### 3. Social Issues

Social Issues courses will enable students to apply multidisciplinary material to a topic relevant to policy and social action at the local, national, and/or international levels.

- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* \*\*
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* \*\*
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* \*\*
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* \*\*
- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* \*\*
- JS 25 - Introduction to Human Rights and Justice 3 *unit(s)*
- MCOM 72 - Mass Communication and Society 3 *unit(s)*
- POLS 4 - Introduction to International Relations 3 *unit(s)*
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)*
- SOCI 80 - Social Problems 3 *unit(s)*

## E. Human Understanding & Development

3 units

Complete one course.

Human Understanding and Development courses will enable students to understand themselves as integrated physiological, social, and psychological entities who are able to formulate strategies for lifelong personal development. Students will also learn skills to employ available university resources to support academic and personal development.

\*For specific department/program majors only

- ANTH 25 - Human Lifecourse in Context 3 *unit(s)*
- BIOL 54 - Human Understanding 3 *unit(s)*
- BUS3 12 - Managing My life 3 *unit(s)*
- CA 60 - Creativity Matters 3 *unit(s)*
- CHAD 60 - Child Development 3 *unit(s)*

- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)*
- COMM 74 - Fundamentals of Intercultural Communication 3 *unit(s)*
- COMM 74Q - Fundamentals of Intercultural Communication 3 *unit(s)*
- EDCO 4 - Personal, Academic and Career Exploration 3 *unit(s)*
- EDCO 4FY - Personal, Academic and Career Exploration 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* \*
- GEOL 5 - Human Development and the Natural World 3 *unit(s)*
- SCED 5 - Human Development and the Natural World 3 *unit(s)*
- KIN 69 - Stress Management: A Multidisciplinary Perspective 3 *unit(s)*
- LING 22 - Language across the Lifespan 3 *unit(s)*
- NUFS 9 - Introduction to Human Nutrition 3 *unit(s)*
- NUFS 10 - Basic Life Skills 3 *unit(s)*
- PH 1 - Understanding Your Health 3 *unit(s)*
- PHIL 12 - Philosophy of the Person 3 *unit(s)*
- PSYC 2Q - Identity Development and Prejudice 3 *unit(s)*
- RECL 10 - Creating a Meaningful Life 3 *unit(s)*
- RELS 99 - Death, Dying and Religions 3 *unit(s)*
- GERO 99 - Death, Dying and Religions 3 *unit(s)*
- HUM 99 - Death, Dying and Religions 3 *unit(s)*
- SCI 2 - Success in Science 3 *unit(s)*
- UNVS 57 - Community Involvement and Personal Growth 3 *unit(s)*
- TA 48 - Voice & Movement for the Actor 3 *unit(s)*

## SJSU Studies - Upper Division Requirements

Students complete 9 to 12 units of SJSU studies: 9 units of upper division general education courses (Areas R, S, and V) and 0 to 3 units of 100W (Area Z). In some cases SJSU Studies areas are integrated in a single course or overlap with major courses.

- Complete one SJSU Studies course in each category.
- All SJSU Studies courses must be taken for a letter grade.
- Completing Area Z with a grade of "C or better" (C- not accepted) is a graduation requirement.
- Prior to enrollment, all SJSU Studies courses require completion of core GE, satisfaction of Writing Skills Test and upper division standing. Pre/Co-requisite of a 100W course is strongly recommended for enrollment in Areas R, S, and V. The WST has been temporarily suspended. See Writing Across the Curriculum website for more information.
- Students who fail the WST may satisfy this requirement by passing ENGL 100A or LLD 100A with a grade of "C or better."
- Students can satisfy Areas R, S, & V by taking COMM 168A/COMM 168B/ENVS 168A/ENVS 168B/GEOL 168A/GEOL 168B/HUM 168A/HUM 168B/METR 168A/METR 168B: Global Climate Change or HUM 177A/HUM 177B: Advanced Honors in Integrated Science, Social Science and Humanities. These are year-long courses sequences: students enroll in 6 units in the Fall and 3 units in the Spring. By successfully completing one of these course sequences with a "C or Better" in each semester, students satisfy all nine units of upper division GE (Areas R, S, & V) within SJSU Studies.
- All first baccalaureate students are required to have a minimum aggregate GPA of 2.0 in their upper division GE courses (Areas R, S, & V). If more than one course is taken in any of the individual R, S, or V areas, then the highest grade in that individual area will be used to calculate the aggregate SJSU Studies GPA. This policy is effective Fall 2011 for all SJSU students who do not have catalog rights prior to Fall 2011.

- If any student takes one or more Area R, S, and V courses in the Spring 2020 semester (regardless of whether the student chooses to receive a grade or opts for Credit/No Credit), the requirement for a minimum aggregate 2.0 GPA in R, S, and V courses will be waived.
- Second baccalaureate students who earned their first bachelor degree from a regionally accredited institution in the U.S. are not required to take SJSU Studies unless specific courses are required by the major. (Effective Fall 2011)
- Transfer students who complete any portion of upper division GE at another CSU campus may request equivalency for coursework in SJSU Studies. Contact the Office of Graduate & Undergraduate Studies for evaluation of coursework.

## Areas R, S, and V

9 units

Complete one 3-unit course from each category.

\*For specific department/program majors only

\*\* Successful completion of this year-long course sequence (with a "C or Better" in each semester) satisfies Areas R, S, & V.

### R. Earth and Environment

Courses in Earth and Environment will cultivate a student's knowledge of the scientific study of the physical universe and its life forms. Students will understand and appreciate the interrelationship of science and human beings to each other.

- ANTH 160 - Reconstructing Lost Civilizations 3 *unit(s)*
- ASTR 101 - Modern Astronomy 3 *unit(s)*
- BIOL 101 - Origins of Life 3 *unit(s)*
- BIOL 110 - Biodiversity and Biopolitics 3 *unit(s)*
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 *unit(s)* \*
- BIOL 159 - Integrative Biology 3 *unit(s)* \*
- BIOL 160 - Ecology 4 *unit(s)* \*
- BOT 160 - Ecology 4 *unit(s)* \*
- BIOL 178 - Integrative Physiology 3 *unit(s)* \*
- CHAD 130 - Coding for Scientific Discovery 3 *unit(s)*
- CHEM 131B - Biochemistry Lab 3 *unit(s)* \*
- COMM 168A - Global Climate Change I 6 *unit(s)* \* \*\*
- COMM 168B - Global Climate Change II 3 *unit(s)*
- ENVS 168A - Global Climate Change I 6 *unit(s)* \*\*
- ENVS 168B - Global Climate Change II 3 *unit(s)* \*\*
- GEOL 168A - Global Climate Change I 6 *unit(s)* \*\*
- GEOL 168B - Global Climate Change II 3 *unit(s)* \*\*
- HUM 168A - Global Climate Change I 6 *unit(s)* \*\*
- HUM 168B - Global Climate Change II 3 *unit(s)* \*\*
- METR 168A - Global Climate Change I 6 *unit(s)* \*\*
- METR 168B - Global Climate Change II 3 *unit(s)* \*\*
- ENGR 100W - Engineering Reports 3 *unit(s)* \*

- ENGR 108 - Green Electronics 3 *unit(s)*
- ENVS 119 - Energy and the Environment 3 *unit(s)*
- ENGR 119 - Energy and the Environment 3 *unit(s)*
- ENVS 152 - Globalization and the Environment 3 *unit(s)*
- PKG 152 - Globalization and the Environment 3 *unit(s)*
- GEOL 103 - Earth Systems and the Environment 3 *unit(s)*
- GEOL 105 - General Oceanography 3 *unit(s)*
- GEOL 107 - Prehistoric Life 3 *unit(s)*
- GEOL 111 - Geology and the Environment 3 *unit(s)*
- ENVS 111 - Geology and the Environment 3 *unit(s)*
- GEOL 112 - Hazards, Risks of Earthquakes and Volcanoes 3 *unit(s)*
- GEOL 124 - Sedimentology and Stratigraphy 3 *unit(s)*
- GLST 167 - Changing Ecologies of Globalization 3 *unit(s)*
- PH 172 - Contemporary Environmental Health Issues 3 *unit(s)*
- HUM 177A - Advanced Honors in Integrated Science, Social Science, and Humanities 6 *unit(s)* \*\*
- HUM 177B - Advanced Honors in Integrated Science, Social Science, and Humanities 3 *unit(s)* \*\*
- LING 123 - Sound and Communication 3 *unit(s)*
- MICR 127 - Microbial Physiology 3 *unit(s)* \*
- METR 112 - Global Climate Changes 3 *unit(s)*
- METR 113 - Atmospheric Pollution 3 *unit(s)*
- ENVS 113 - Atmospheric Pollution 3 *unit(s)*
- METR 115 - Wildfire in the Earth System 3 *unit(s)*
- NUFS 115 - Issues in Food Toxicology 3 *unit(s)*
- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)*
- NUFS 163 - Physical Fitness and Nutrition 3 *unit(s)*
- KIN 163 - Physical Fitness and Nutrition 3 *unit(s)*
- PHIL 160 - Philosophy of Science 3 *unit(s)*
- PHYS 166 - Physics of Music 3 *unit(s)*
- MUSC 166 - Physics of Music 3 *unit(s)*

## S. Self, Society & Equality in the U.S.

In these courses, students will study the interrelationships of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures.

- AE 172A - Spacecraft Design I 3 *unit(s)* \*
- AE 171A - Aircraft Design I 3 *unit(s)* \*
- AAS 175 - Asian American Communities 3 *unit(s)*
- AMS 169 - The American Dream 3 *unit(s)*
- HUM 169 - The American Dream 3 *unit(s)*
- ANTH 140 - Human Sexuality 3 *unit(s)*
- BIOL 140 - Human Sexuality 3 *unit(s)*
- PH 140 - Human Sexuality 3 *unit(s)*
- BME 198A - Senior Design Project I 2 *unit(s)* \*
- CA 172 - The Arts in U.S. Society 3 *unit(s)*
- ENGL 172 - The Arts in U.S. Society 3 *unit(s)*
- MUSC 172 - The Arts in U.S. Society 3 *unit(s)*



- TA 172 - The Arts in U.S. Society 3 *unit(s)*
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)*
- CCS 160 - Gender and Sexuality in the Chicana/o Community 3 *unit(s)*
- CHAD 102 - Development of Self in a Culturally Diverse Society 3 *unit(s)*
- COMM 168A - Global Climate Change I 6 *unit(s)* \*\*
- COMM 168B - Global Climate Change II 3 *unit(s)* \*\*
- ENVS 168A - Global Climate Change I 6 *unit(s)* \*\*
- ENVS 168B - Global Climate Change II 3 *unit(s)* \*\*
- GEOL 168A - Global Climate Change I 6 *unit(s)* \*\*
- GEOL 168B - Global Climate Change II 3 *unit(s)* \*\*
- HUM 168A - Global Climate Change I 6 *unit(s)* \*\*
- HUM 168B - Global Climate Change II 3 *unit(s)* \*\*
- METR 168A - Global Climate Change I 6 *unit(s)* \*\*
- METR 168B - Global Climate Change II 3 *unit(s)* \*\*
- COMM 174 - Intercultural Comm & Struct Inequality 3 *unit(s)*
- CMPE 195A - Senior Design Project I 2 *unit(s)* \*
- EDUC 157SL - Community Action/Community Service 3 *unit(s)*
- COMM 157SL - Community Action/Community Service 3 *unit(s)*
- ENGR 157SL - Community Action/Community Service 3 *unit(s)*
- HA 157SL - Community Action/Community Service 3 *unit(s)*
- SCI 157SL - Community Action/Community Service 3 *unit(s)*
- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)*
- EE 198A - Senior Design Project I 1 *unit(s)* \*
- ENGL 117A - American Literature, Film, & Culture 3 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)*
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* \*
- ENGR 195C - Interdisciplinary Senior Project I 3 *unit(s)* \*
- ENVS 150 - Introduction to Environmental Thought 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)*
- GERO 107 - Aging and Society 3 *unit(s)*
- PH 107 - Aging and Society 3 *unit(s)*
- SCWK 107 - Aging and Society 3 *unit(s)*
- HIST 170S - Topics in American History: American Identities and Institutions 3 *unit(s)* (US 1)
- HIST 185 - LGBTQ+ History in the United States 3 *unit(s)*
- HIST 188 - History of Women in the United States 3 *unit(s)*
- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)*
- NUFS 135 - Health Issues in a Multicultural Society 3 *unit(s)*
- NURS 135 - Health Issues in a Multicultural Society 3 *unit(s)*
- HUM 177A - Advanced Honors in Integrated Science, Social Science, and Humanities 6 *unit(s)* \*\*
- HUM 177B - Advanced Honors in Integrated Science, Social Science, and Humanities 3 *unit(s)* \*\*
- JS 132 - Race, Gender, Inequality and the Law 3 *unit(s)*
- JS 136 - Family and Community Violence 3 *unit(s)*
- KIN 101 - Sport in America 3 *unit(s)*
- PH 169 - Diversity, Stress and Health 3 *unit(s)*
- KIN 169 - Diversity, Stress and Health 3 *unit(s)*
- LING 129 - Culture, Language and Ethnicity in the U.S. 3 *unit(s)*
- LSTP 139 - Education and (In)Equality 3 *unit(s)*
- MATE 198A - Senior Design Project 2 *unit(s)* \*

- ME 195A - Senior Design Project I 3 *unit(s)* \*
- MUSC 120 - Worlds of Jazz 3 *unit(s)*
- NURS 138 - Professional Role Development VI 3 *unit(s)*
- NURS 178 - Leadership III 3 *unit(s)*
- NURS 178A - Leadership 3 *unit(s)*
- PHIL 186 - Professional and Business Ethics 3 *unit(s)*
- BUS3 186 - Professional and Business Ethics 3 *unit(s)*
- POLS 120 - Law and Society 3 *unit(s)*
- PSYC 191 - The Psychology of Prejudice 3 *unit(s)*
- RECL 111 - Leisure, Culture, and Identity 3 *unit(s)*
- RELS 162 - Religion and Political Controversy in the US 3 *unit(s)*
- RELS 191 - Religion in America 3 *unit(s)*
- HUM 191 - Religion in America 3 *unit(s)*
- RTVF 110 - Media and Culture 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)*
- URBP 101 - The City 3 *unit(s)*
- WOMS 101 - Sex, Power, and Politics 3 *unit(s)*

## V. Culture, Civilization & Global Understanding

In these courses, students should receive an appreciation for human expression in cultures outside the U.S. and an understanding of how that expression has developed over time. Additionally, students should understand how traditions of cultures outside the U.S. have influenced American culture and society.

- AE 171B - Aircraft Design II 3 *unit(s)* \*
- AE 172B - Spacecraft Design II 3 *unit(s)* \*
- AMS 159 - Nature and World Cultures 3 *unit(s)*
- ENVS 159 - Nature and World Cultures 3 *unit(s)*
- HUM 159 - Nature and World Cultures 3 *unit(s)*
- ANTH 115 - The Emerging Global Culture 3 *unit(s)*
- ASIA 115 - The Emerging Global Culture 3 *unit(s)*
- ANTH 146 - Culture and Conflict 3 *unit(s)*
- ARTH 193A - Worlds of Art and Culture 3 *unit(s)*
- ARTH 193B - East Meets West in Art 3 *unit(s)*
- ASIA 193B - East Meets West in Art 3 *unit(s)*
- AVIA 198 - Aviation and Human Civilization 3 *unit(s)*
- BME 198B - Senior Design Project II 2 *unit(s)* \*
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)*
- ENGL 173 - Thinking About Contemporary World Arts 3 *unit(s)*
- MUSC 173 - Thinking About Contemporary World Arts 3 *unit(s)*
- TA 173 - Thinking About Contemporary World Arts 3 *unit(s)*
- CHAD 106 - Concepts of Childhood 3 *unit(s)*
- CHIN 140 - Chinese Culture and Politics Through Literature 3 *unit(s)*
- ASIA 140 - Chinese Culture and Politics Through Literature 3 *unit(s)*
- COMM 168A - Global Climate Change I 6 *unit(s)* \*\*
- COMM 168B - Global Climate Change II 3 *unit(s)* \*\*
- ENVS 168A - Global Climate Change I 6 *unit(s)* \*\*
- ENVS 168B - Global Climate Change II 3 *unit(s)* \*\*

- GEOL 168A - Global Climate Change I 6 *unit(s)* \*\*
- GEOL 168B - Global Climate Change II 3 *unit(s)* \*\*
- HUM 168A - Global Climate Change I 6 *unit(s)* \*\*
- HUM 168B - Global Climate Change II 3 *unit(s)* \*\*
- METR 168A - Global Climate Change I 6 *unit(s)* \*\*
- METR 168B - Global Climate Change II 3 *unit(s)* \*\*
- COMM 179 - Global Media and Resistance 3 *unit(s)*
- CMPE 195B - Senior Design Project II 3 *unit(s)* \*
- DANC 102 - Dance in World Cultures 3 *unit(s)*
- EDSE 124 - Methodologies for Eng Learners w/out Dis 3 *unit(s)*
- EE 198B - Senior Design Project II 3 *unit(s)* \*
- ENGL 117B - Global Film, Literature, and Cultures 3 *unit(s)*
- ENGL 123A - Literature for Global Understanding-The Americas 3 *unit(s)*
- ENGL 123B - Literature for Global Understanding-Africa 3 *unit(s)*
- ENGL 123C - Literature for Global Understanding-Oceania 3 *unit(s)*
- ENGL 123D - Literature for Global Understanding-Asia 3 *unit(s)*
- ENGL 126 - Holocaust Literature 3 *unit(s)*
- JWSS 126 - Holocaust Literature 3 *unit(s)*
- HUM 126 - Holocaust Literature 3 *unit(s)*
- FORL 126 - Holocaust Literature 3 *unit(s)*
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* \*
- ENGR 195D - Interdisciplinary Senior Project II 3 *unit(s)* \*
- FREN 102B - Francophone Cultures: Through Literature and Cinema 3 *unit(s)*
- GEOG 112 - Nations, Cultures, and Territorial Disputes 3 *unit(s)*
- GLST 143 - Gender, Power, Intl Dev 3 *unit(s)*
- GLST 188 - Special Topics in International Experiences 3 *unit(s)*
- HIST 153 - History of Women in Europe 3 *unit(s)*
- HIST 155 - 20th Century World 3 *unit(s)*
- HUM 114 - Legacy of Asia 3 *unit(s)*
- ANTH 114 - Legacy of Asia 3 *unit(s)*
- ASIA 114 - Legacy of Asia 3 *unit(s)*
- RELS 114 - Legacy of Asia 3 *unit(s)*
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 *unit(s)*
- HUM 177A - Advanced Honors in Integrated Science, Social Science, and Humanities 6 *unit(s)* \*\*
- HUM 177B - Advanced Honors in Integrated Science, Social Science, and Humanities 3 *unit(s)* \*\*
- JS 171 - Human Rights and Justice 3 *unit(s)*
- KIN 111 - Sport & Movement in a Global Context 3 *unit(s)*
- KIN 111ITL - Sport & Movement in a Global Context: International Experience 3 *unit(s)*
- LING 122 - English as a World Language 3 *unit(s)*
- ASIA 122 - English as a World Language 3 *unit(s)*
- MATE 198B - Senior Design Project 2 *unit(s)* \*
- ME 195B - Senior Design Project II 3 *unit(s)* \*
- MUSC 117 - Music and Culture in Latin America 3 *unit(s)*
- NUFS 144 - Food Culture: Consuming Passions 3 *unit(s)*
- PHIL 104 - Asian Philosophy 3 *unit(s)*
- ASIA 104 - Asian Philosophy 3 *unit(s)*
- RELS 104 - Asian Philosophy 3 *unit(s)*
- PHIL 110 - Science, Technology and Human Values 3 *unit(s)*

- PHIL 133 - Ethics in Science 3 *unit(s)*
- PHIL 134 - Computers, Ethics and Society 3 *unit(s)*
- POLS 150 - War and Peace 3 *unit(s)*
- POLS 170V - American Politics in Global Perspective 3 *unit(s)* (US 2/US 3)
- RELS 122 - Magic, Science and Religion 3 *unit(s)*
- ANTH 122 - Magic, Science and Religion 3 *unit(s)*
- RELS 145 - Middle Eastern Traditions 3 *unit(s)*
- ANTH 145 - Middle Eastern Traditions 3 *unit(s)*
- MDES 145 - Middle Eastern Traditions 3 *unit(s)*
- RTVF 111 - Alternative Cinema 3 *unit(s)*
- SPAN 102B - Hispanic American Culture 3 *unit(s)*
- SOCS 139 - World History for Teachers 3 *unit(s)*
- TA 127 - Contemporary Theatre 3 *unit(s)*
- ENGL 127 - Contemporary Theatre 3 *unit(s)*
- TECH 198 - Technology and Civilization 3 *unit(s)*
- CMPE 198 - Technology and Civilization 3 *unit(s)*
- ENGR 198 - Technology and Civilization 3 *unit(s)*
- ME 198 - Technology and Civilization 3 *unit(s)*
- WOMS 102 - The Global Study of Women 3 *unit(s)*

## Z. Written Communication II

3 units

All students must satisfy Area Z (GWAR) by

- Earning a "C or better" in a 100W course, all of which enforce the prerequisite of a passing score on the writing Skills Test (WST) or a grade of "C or better" for ENGL 100A or LLD 100A.
- For most degree programs, students should take the 100W course that is required as part of the degree program (listed below); or
- Completing the Graduation Writing Assessment Requirement (GWAR) while matriculated at another CSU, or equivalent course work at another university prior to SJSU enrollment; or
- A waiver score on the WST satisfies Area Z without the need to complete a 100W course only in majors that permit a waiver score. Majors that do not permit a waiver (regardless of score) are listed below.
- Effective Fall 2011: Second baccalaureate students who earned their first bachelor degree from a regionally accredited institution in the U.S. are not required to take this course unless required by their major department.

In written communication II courses, students will develop advanced proficiency in college-level writing and appropriate contemporary research strategies and methodologies to communicate effectively to both specialized and general audiences.

### Majors Requiring Written Communication II

The following majors require that students complete the Written Communication II (Area Z) course regardless of their score on the Writing Skills Test (i.e., no waiver allowed).

- African American Studies
- Biological Science
- Chemistry
- Communication Studies

- Ecology and Evolution
- Engineering (all majors)
- English
- Environmental Studies
- Geography
- Geology
- Global Studies
- History
- Marine Biology
- Meteorology
- Nursing
- Political Science
- Psychology
- Social Science (Teacher Preparation and Multiple Subject Preparation)
- World Languages and Literature (all majors)

### 100W Courses

- AFAM 100W - Writing Workshop 3 *unit(s)*
- ANTH 100W - Writing Workshop 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)*
- BIOL 100W - Scientific Communication Workshop 3 *unit(s)*
- CHAD 100W - Writing Workshop 3 *unit(s)*
- CHEM 100W - Writing Workshop: Chemical Communications 3 *unit(s)*
- COMM 100W - Writing Workshop: Writing for Influence 3 *unit(s)*
- CS 100W - Technical Writing Workshop 3 *unit(s)*
- DSGN 100W - Writing Workshop: Design 3 *unit(s)*
- ECON 100W - Writing Workshop: Economic Reports 4 *unit(s)*
- ENGL 100W - Writing Workshop 4 *unit(s)*
- ENGL 100WB - Written Communication: Business 3 *unit(s)*
- ENGR 100W - Engineering Reports 3 *unit(s)*
- ENVS 100W - Environmental Research and Writing 3 *unit(s)*
- FORL 100W - Writing Workshop 3 *unit(s)*
- FS 100W - Forensic Science Writing Workshop 3 *unit(s)*
- GEOG 100W - Writing Workshop 3 *unit(s)*
- GLST 100W - Writing Workshop 3 *unit(s)*
- GEOL 100W - Writing Workshop 3 *unit(s)*
- HIST 100W - History Writers' Workshop 3 *unit(s)*
- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)*
- AMS 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)*
- RELS 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)*
- NUFS 100W - Writing Workshop 3 *unit(s)*
- PH 100W - Writing Workshop 3 *unit(s)*
- NURS 100W - Writing Workshop 3 *unit(s)*
- NURS 100WE - Evidence Based Practice Writing Workshop 3 *unit(s)*
- HSPM 100W - Writing Workshop 3 *unit(s)*
- JS 100W - Writing Workshop 3 *unit(s)*

- KIN 100W - Writing Workshop 3 *unit(s)*
- LLD 100W - Writing Workshop 3 *unit(s)*
- LLD 100WB - Writing Workshop for Business Students 3 *unit(s)*
- MATH 100W - Technical Writing Workshop 3 *unit(s)*
- MCOM 100W - Writing Workshop: Mass Communications 3 *unit(s)*
- METR 100W - Writing Workshop: Meteorological Reports 3 *unit(s)*
- MUSC 100W - Written Communication II 3 *unit(s)*
- PHYS 100W - Methods of research and communication in physics 3 *unit(s)*
- POLS 100W - Writing Workshop 3 *unit(s)*
- PSYC 100W - Writing Workshop 3 *unit(s)*
- RECL 100W - Writing Workshop 3 *unit(s)*
- SCWK 100W - Writing Workshop 3 *unit(s)*
- SOCI 100W - Writing Workshop 3 *unit(s)*
- TA 100W - Writing Workshop: Theatre Arts 3 *unit(s)*

# General Education Course Attributes

For more information about General Education Objectives visit the Policies and Procedures section in this catalog.

<b>GE Area</b>	<b>Description</b>
A1	Area A1: Oral Communication
A2	Area A2: Written Communication IA
A3	Area A3: Critical Thinking
B1	Area B1: Physical Science
B1 + B3	Areas B1 + B3: Physical Science & Laboratory Science
B2	Area B2: Life Science
B2 + B3	Areas B2 + B3: Life Science & Laboratory Science
B3	Area B3: Laboratory Science
B4	Area B4: Mathematical Concepts
C1	Area C1: Arts
C2	Area C2: Letters
D1	Area D1: Human Behavior
D2	Area D2: Comparative Systems
D2 + D3*	Areas D2 + D3 Comp Sys & Soc Issues
D3	Area D3: Social Issues
E	Area E: Human Understanding & Development
US1	Area US1: American History
US2 + US3*	Areas US2, US3: US Constitution & California Government
US3	Area US3: California Government Only
US1 + US2 + US3*	Areas US1, 2, 3 American History, US Constitution & California Government
R	Area R: Earth & Environment
S	Area S: Self, Society & Equality in the U.S.

V Area V: Culture, Civilization & Global Understanding

Z Area Z: Written Communication II (GWAR)

GWAR Graduation Writing Assessment Requirement

\* In some cases the GE area may not be met until the entire course sequence is completed. This also applies to other GE combinations not noted with an asterisk.

In previous academic catalogs, you may see references to summary codes when a course fulfills multiple GE area.

Code GE Areas

M1\* A1+ C2 + US123

M2\* A2 + C2

M3 A3 + D3

M4 C1 + D2

M5\* C2 + D3 + US123

M6\* D2 + US123

M7\* D3 + US123

M8\* C1 + C2

M9\* A3 or C2

M10\* A2 + D3

M11\* D3 + US23

M12\* D2 + US1

M13\* A3 + C2 + US123

M14\* A1 + D2

M15\* A2 + D3



# Undergraduate BSN Application and Admission Procedures

The Valley Foundation School of Nursing's application to the Undergraduate Nursing, BS is a 2-step application process.

Students interested in the nursing major should attend a 2-hour group advising session (usually offered monthly). Submit a University application to [www.calstate.edu/apply](http://www.calstate.edu/apply) and official transcripts of all previous college work to the Office of Admissions by the posted University deadlines. As of Fall 2010, the University has designated "pre-nursing undeclared" as an impacted major. Impaction criteria for the undeclared pre-nursing major are posted on the University's Office of Admissions webpage. Students are admitted as "cohort groups" once they have been formally admitted to the nursing major. (Note: the nursing major application process has supplemental impaction criteria in place.) Students must file a separate application to the nursing major ([www.sjsu.edu/nursing](http://www.sjsu.edu/nursing) or the web site, NursingCAS.org); Information for prospective nursing students is listed under programs, Baccalaureate.

Prior to applying to the University, students should refer to The Valley Foundation School of Nursing website for information regarding advisement for entry into the major. Advising is available through individual or monthly group sessions. Refer to the nursing web site at [www.sjsu.edu/nursing](http://www.sjsu.edu/nursing) for more detail of requirements and dates, times, and rooms (or Zoom sessions) for monthly group advising sessions. The application process for The Valley Foundation School of Nursing will be posted on the nursing website. All online applications include proof of admission to SJSU, or at least that you have begun the [www.calstate.edu/apply](http://www.calstate.edu/apply) application process, and a passing score on the TEAS test. Courses with designated "W" or "WB" are not considered for calculation purposes. *For grades from Spring 2020 only, due to COVID-19 changes, final Credit grades are allowed for prerequisites, but are not used in impaction score calculations.*

Nursing has been an impacted major since Spring 2005. Impaction imposes supplemental criteria that all students must meet. Pre-nursing students apply to the "pre-nursing undeclared" major, for consideration in the applicant pool. Students may apply to the nursing major twice maximum.

The Valley Foundation School of Nursing has biannual admission application periods - Spring and Fall, although the University has not opened Spring applications for transfer students. Supplemental criteria for eligibility for the applicant cohort pool include:

1. Composite GPA of 3.2 in 5 prerequisite courses (BIOL 65, BIOL 66, MICR 20, ENGL 1A, and STAT 95). All courses must be passed with a C or better.
2. BIOL 65, BIOL 66, and MICR 20 must be completed within 5 years of establishing eligibility and passed with a grade of "C" or better. If the course does not meet the 5-year recency requirement the student will need to retake that course. The grade for any of these 3 courses taken within the 5 years will be used for calculation purposes. Courses may not be repeated, except for forgiveness when taken at the original school and this designation must appear on official transcripts. ("W" and "WB" grades are excluded).
3. A minimum TEAS score ([testing.sjsu.edu](http://testing.sjsu.edu)) of 78%; for version 6 of the TEAS. This exam may only be taken two times regardless of the version. ([www.sjsu.edu/nursing](http://www.sjsu.edu/nursing))
4. Composite GPA of 3.0 in CHEM 30A, COMM 20, and an Area A3 (critical thinking) course. All courses must be passed with a C or better. Options for acceptable area A3 courses are listed on the University's web site.

## Impaction Scoring

Students meeting the above minimum criteria will be ranked according to an impaction score, calculated and weighted from the following two areas:

1. GPA in composite of 5 prerequisite courses (BIOL 65, BIOL 66, MICR 20, ENGL 1A, and STAT 95). None of these courses may be repeated, and only the first grade will be included in the calculation. Exceptions: The second attempt was for "Grade Forgiveness" (also known as Academic Renewal) or meet the 5 year recency for BIOL 65, BIOL 66, and MICR 20. *Advanced placement courses (with documentation) and courses with a CR (credit) for Spring 2020 only, will be allowed but they not used for impaction calculation purposes.*
2. A minimum score on the Test of Essential Academic Skills (TEAS) Test ([www.sjsu.edu/nursing](http://www.sjsu.edu/nursing)). The TEAS is a test of English, reading comprehension, mathematics, and basic science. It is available through the SJSU Testing Center. Refer to The Valley Foundation School of Nursing's home page and the BS information packet (under Program - Baccalaureate - prospective students) for further information. There is a fee. A Study and Review Guide is available for purchase online at [www.atitesting.com](http://www.atitesting.com) to assist in preparation for the TEAS exam. Test administration dates (usually offered every 2 months) are posted under the University testing website. Check the testing website frequently for updates. *It is also offered elsewhere. NOTE: An "optional" opportunity (not required) to slightly increase the impaction score involves a direct volunteer or paid health care experience (check the website for minimum number of hours, the time frame, and needed documentation).*

In order to join the applicant pool for The Valley Foundation School of Nursing, students must:

1. Declare "pre-nursing undeclared" as a major (this designation has supplemental entry criteria; see [www.sjsu.edu/nursing](http://www.sjsu.edu/nursing)). Change of major forms are done through the main university advising office in the Student Success Center on 10th street. Consult with nursing advisor, if the student has a different declared major.
2. Complete the 8 required prerequisites courses with a grade of "C" or better. See minimum GPA under "impaction criteria."
3. Pass the TEAS test, version 6, within 2 attempts and submit the score(s) to the online vendor for application to SJSU The Valley Foundation School of Nursing (NOTE: a minimum TEAS score of 78 is required for eligibility). The TEAS score is divided by 30 for calculation of impaction scores.
4. United States citizenship (U.S. Birth Certificate or current U.S. Passport) or Green Card Permanent Resident (documentation required). "Dream Act" students need certain documentation. A California Drivers License (or picture ID from Drivers License bureau) is also required.
5. A functional competency document is required (form on website).
6. Once admitted "provisionally", the student completes a required background check and drug clearance, using the School's vendor. A clear background check and drug screen are required. More information on this content is on the School's web site under "Policies".
7. Submit an application to Nursing CAS with documentation of 1 through 6 above. Documentation of completion of prerequisites is submitted during the online application process.
8. 3 Corequisite courses must be completed with a C or better before beginning nursing courses (eg., CHAD 70 - Lifespan Development in the 21st Century; NUFS 8 - Nutrition for the Health Professions; and PSYC 1 - Introduction to Psychology).
9. Application to nursing and documentation deadlines for entry in Fall semester is Feb. 15. Application and documentation deadlines for entry in Spring semester is September 15 (*although date may need to change in Fall 2020, due to COVID-19*). Specific clinical documentation will be required of all nursing students on admission to the major. Students may apply up to one month prior to these deadlines.

Please note that application requirements and prerequisite courses are subject to change. Interested students should check the nursing web site frequently for updates and changes. Monthly 2-hour group advising session does not require an appointment; if campus is closed in Fall, see web site for ZOOM links.

Specific follow-up of items on the nursing web site are included for applicants and The Nursing Undergraduate Student Handbook, which is updated each academic year.

A student may only apply a maximum of two times to this program. If not admitted by then, the student should seek general University advising to change majors.

# Connie L. Lurie College of Education

**Office:** Sweeney Hall

**Telephone:** (408) 924-3600

**Email:** [luriecollege@sjsu.edu](mailto:luriecollege@sjsu.edu)

**Website:** [www.sjsu.edu/education](http://www.sjsu.edu/education)

## Overview

The Connie L. Lurie College of Education is a professional community of students, faculty and staff engaged in supportive partnerships to serve a community of culturally diverse children, youth and families by pursuing and promoting scholarly and reflective inquiry, and access to a quality lifelong education. Faculty, staff and graduates are compassionate and ethical professionals who are mindful of our responsibilities in a democratic society. The College's core values are excellence and equity. Excellence is manifested in the rigor of our academic programs, in our teacher/scholar faculty contributions, and in the high level of staff service. We challenge our students to strive for excellence in their academic and personal pursuits, as informed and active citizens in their own communities. To achieve equity, our students, faculty, and staff continuously work for social justice and educational opportunities for all members of our society.

The college offers Bachelor's and Master's degrees, a doctoral program, and numerous professional teaching credentials. Programs are offered through seven academic departments, which are supplemented by a variety of resources including the Armstead Center for Communication Disorders and the Child Development Laboratory Preschool:

- Child and Adolescent Development
- Communicative Disorders and Sciences
- Counselor Education
- Educational Leadership
- Special Education
- Teacher Education

The college, housed in William Sweeney Hall, offers two computer laboratories that are open to both undergraduate and graduate students. Students also have access to other high tech education applications.

## Student Service Centers

The Kay A. Armstead Center for Communication Disorders provides speech-language-hearing evaluations and therapy services and to students, staff, faculty, and the local San Jose community.

The Child Development Laboratory Preschool is housed in two locations on the SJSU campus, including toddler and pre-school labs. These programs provide undergraduates with both observation and hands-on clinical/practicum opportunities.

The Credential Services Office provides students with information about the California Basic Education Skills Test (CBEST), California Subject Examinations for Teachers (CSET), and Reading Instruction Competence Assessment (RICA). General information on elementary (Multiple Subject), secondary (Single Subject) and special education (Education Specialist) teaching credentials, as well as other service credentials and certificate programs are provided.

The Lurie College Student Success Center undergraduate, graduate, credential, and doctoral students should utilize our services, which include professional development workshops, mentoring, networking events, and access to university, college, and career resources. The Student Success Center also provides academic advising about General Education (GE) requirements, changing a major/minor, and support for students on academic probation or disqualified from the university.

## Advisement

Advising and information related to applications are handled through the six academic departments and the Ed.D Leadership Program.

These departments include Child and Adolescent Development, Communicative Disorders and Sciences, Counselor Education, Educational Leadership, Special Education, and Teacher Education (formerly Elementary Education and Secondary Education).

### *EDUC 80 - Independent Study*

1-3 unit(s)

Supervised study related to the field of education appropriate to lower division undergraduate students. Individuals work on special topics by arrangement with a faculty member.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Credit/No Credit

### *EDUC 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

### *EDUC 157SL - Community Action/Community Service*

3 unit(s)

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*EDUC 186 - Using Instructional Media*

3 unit(s)

Selection, utilization and evaluation of instructional media in adult learning configurations. Analysis of communication and learning theories. Design and production of teaching and learning materials.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDUC 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*EDUC 298 - Individualized Studies in Education*

1-6 unit(s)

Supervised study in school administrations for both the preliminary and professional services credential programs.

**Prerequisite(s):** Admission to Graduate department, EDAD 200, EDAD 270 or advisor consent.

**Grading:** Mandatory CR/NC/RP

## Department of Child and Adolescent Development

**Office:** Sweeney Hall 201

**Telephone:** 408-924-3718 (Voice); 408-924-3758 (Fax)

**Email:** [childdev@sjsu.edu](mailto:childdev@sjsu.edu)

**Website:** [www.sjsu.edu/chad](http://www.sjsu.edu/chad)

### Professors

Toni Campbell  
Mary McVey  
Maureen C. Smith  
Nadia Sorkhabi

### Associate Professors

Maria Fusaro  
Robin L. Love  
Cara Maffini  
Ravisha Mathur  
Emily Slusser, Chair

### Assistant Professors

Dina Izenstark  
Robert Marx  
Danielle Mead-Nytko

Ellen Middaugh  
Kim Tsai

## Overview

Interested in K-8 teaching? In childcare? Or in agencies serving children, youth, and families? A degree in child and adolescent development is excellent training for careers involving children and families. Or perhaps you already possess entry-level credentials, already work with children and youth and want to advance your career. A wide range of professionals—from childcare administrators to parent educators to child/youth advocates to child and family counselors to pediatric nurses to healthcare workers—have gained the knowledge and expertise they needed to move ahead in the workplace through our bachelor's and master's degree programs. Our curriculum incorporates theory, research, policy and practice, providing students with a comprehensive understanding of children and adolescents. For hands-on training we offer numerous activities in community agencies and we operate a campus laboratory preschool. We graduate well-informed, responsible individuals, sensitive to the commonalities and diversities of the world and its people.

## Child and Adolescent Development Honors Program

Students may apply for the departmental Honors Program in Child and Adolescent Development if they meet the following criteria: completion of 9 units of upper division child development course work with a minimum GPA of 3.5, and completion of CHAD 101 or STAT 95 (or equivalent) with a grade of "A-" or better. Students who meet the entrance criteria will be awarded departmental honors by showing evidence of distinguished scholarly work as indicated by completion of a BA honors thesis (CHAD 199 - Senior Honors Thesis) or work leading to a published paper or presentation at a professional meeting, and a minimum GPA of 3.5 in all upper division child development courses.

## Undergraduate

### Child and Adolescent Development, BA

This CHAD program, offered by the Department of Child and Adolescent Development, provides a strong foundation in child development and could be the basis for graduate study in child development and related fields. This major is designed for students interested in having a career in a variety of child-related fields, such as early childhood education, childcare, community settings, and/or agencies serving children, youth, and families. Students who have declared Child and Adolescent Development (CHAD) as their major should meet with the Department advisor for consultation and approval of the program. Information about ChAD advising and how to make an appointment can be found on the department website [www.sjsu.edu/chad/](http://www.sjsu.edu/chad/).

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Requirements 51-52

University Electives 30-31

**Total** **120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Requirements (51-52 units)

#### Lower Division Core (12 units)

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (*May substitute STAT 95 with SOCS 15/SOCI 15*)

#### Upper Division Core (24 units)

- CHAD 101 - Research Methods in Child Development 3 *unit(s)*
- CHAD 165 - Risk and Resilience in a Community Context 3 *unit(s)*
- CHAD 168 - Social and Emotional Development in Childhood and Adolescence 3 *unit(s)*
- CHAD 169 - Motivating Children and Adolescents in Educational Settings 3 *unit(s)*
- CHAD 170 - Contextual Influences on Cognitive Development 3 *unit(s)*
- CHAD 195 - Senior Seminar in Child Development 3 *unit(s)*

#### Complete One Course From:

- CHAD 100W - Writing Workshop 3 *unit(s)* (Z)
- LLD 100W - Writing Workshop 3 *unit(s)* (Z)

#### Complete One Course From:



- CHAD 162 - Childhood and Adolescence in a Multicultural Society 3 *unit(s)*
- CHAD 164 - Contemporary Parenting 3 *unit(s)*

## Area Specialization (15-16 units)

### Complete One Plan From The Following:

*Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.*

### Plan B1 (15 units)

- CHAD 150 - Development of Communicative Competence 3 *unit(s)*
- CHAD 152 - Foundations for Early Childhood Curriculum 3 *unit(s)*
- CHAD 160 - Child Development Practicum 3 *unit(s)*
- CHAD 161 - Administration of Early Childhood Progs 3 *unit(s)*
- CHAD 173 - Crit. Issues in Infant/Toddler Develop. 3 *unit(s)*

### Plan B2 (15-16 units)

- CHAD 104 - Program Evaluation and Assessment in Community-Based Programs 3 *unit(s)*
- CHAD 157 - Adult Supervision for Programs Serving Children, Youth, and Families 3 *unit(s)*
- CHAD 158 - Practicum in Community-Based Organizations Serving Children and Youth 3 *unit(s)*

### Complete One Course From:

- CHAD 163 - Critical Issues in Adolescent Development 3 *unit(s)*
- CHAD 173 - Crit. Issues in Infant/Toddler Develop. 3 *unit(s)*

## Interdisciplinary Elective (3-4 units)

Complete one course from:

- COMM 144F - Organizational Communication 4 *unit(s)*
- PH 145 - Community Mental Health 3 *unit(s)*
- JS 152 - Juvenile Delinquency & Justice 3 *unit(s)*
- LING 129 - Culture, Language and Ethnicity in the U.S. 3 *unit(s)* (S)
- SOCI 151 - Violence in the Family 3 *unit(s)*
- SOCI 170 - Sociology of Family 3 *unit(s)*
- URBP 133 - Introduction to Social Issues in Planning 4 *unit(s)*

## University Electives or Minor (30-31 units)

University electives may be chosen by student, however the department highly recommends the following courses. If not taken above.

- CHAD 104 - Program Evaluation and Assessment in Community-Based Programs 3 *unit(s)*
- CHAD 150 - Development of Communicative Competence 3 *unit(s)*

- CHAD 151 - Developing Literacy in a Diverse Society 3 unit(s)

## Total Units Required (120 units)

Note: The following Capstone courses, CHAD 158, CHAD 160 and CHAD 195 may be repeated only once.

## Child and Adolescent Development, Preparation for Teaching W/CSET Waiver, BA

This major is designed for students interested in teaching in elementary school or middle school. The following course work satisfies San José State University's requirements for a BA in Child and Adolescent Development (ChAD). The SJSU pattern of Preparation for Teaching course requirements is designed for students who begin their college careers in this major. New students or transfer students in this BA track should see a department advisor during the first semester for a list of the required courses. Students who are transfers or who are changing into this major, in consultation with a department advisor, identify the course work appropriate for the individual. Information about ChAD advising and to make an appointment can be found on the department website: [www.sjsu.edu/chad/chad-resources/advising/index.html](http://www.sjsu.edu/chad/chad-resources/advising/index.html).

The Commission on Teacher Credentialing in the state of California (CCTC) recognizes Teacher Prep degrees as verification of subject matter competence. The following course work, offered by the Department of Child and Adolescent Development, satisfies San José State University's requirements for a BA in ChAD, and is a program approved by the CCTC for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential. (See Preparation for Teaching w/o CSET waiver)

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	17
Major Requirements	39
Multiple Subjects Preparation Core	63-64
University Electives	0-1
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (17 units)

### Core Lower Division General Education (9 units)

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (39 units)

### Lower Division ChAD Core (12 units)

- CHAD 60 - Child Development 3 unit(s) (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 unit(s) (E)
- PSYC 1 - Introduction to Psychology 3 unit(s) (D1)
- STAT 95 - Elementary Statistics 3 unit(s) (B4) (May substitute STAT 95 with SOCS 15/SOCI 15)

### Upper Division ChAD Core (27 units)

- CHAD 101 - Research Methods in Child Development 3 unit(s)
- CHAD 159 - Child Development K-8 Practicum 3 unit(s)
- CHAD 168 - Social and Emotional Development in Childhood and Adolescence 3 unit(s)
- CHAD 169 - Motivating Children and Adolescents in Educational Settings 3 unit(s)
- CHAD 170 - Contextual Influences on Cognitive Development 3 unit(s)
- CHAD 195 - Senior Seminar in Child Development 3 unit(s)

### Complete One Course From:

- CHAD 100W - Writing Workshop 3 unit(s) (Z)
- LLD 100W - Writing Workshop 3 unit(s) (Z)

### Complete One Course From:

- CHAD 162 - Childhood and Adolescence in a Multicultural Society 3 unit(s)
- CHAD 164 - Contemporary Parenting 3 unit(s)

### Complete One Course From:

- CHAD 163 - Critical Issues in Adolescent Development 3 unit(s)
- CHAD 173 - Crit. Issues in Infant/Toddler Develop. 3 unit(s)

## Multiple Subjects Preparation Core Curriculum (63-64 units)

Additional requirements for Multiple Subjects Preparation Core Curriculum

## Language and Literature (18-19 units)

- ENGL 1A - First Year Writing 3 unit(s) (A2)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (ENGL 1B also accepted for Transfer Students.)
- ENGL 112A - Children's Literature 3 unit(s)
- CHAD 150 - Development of Communicative Competence 3 unit(s)
- CHAD 151 - Developing Literacy in a Diverse Society 3 unit(s)

### Complete One Course From:

- ENGL 103 - Modern English 4 unit(s)
- LING 107 - Patterns of English 3 unit(s)

### Mathematics (9 units)

- MATH 12 - Number Systems 3 unit(s) (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 unit(s)
- MATH 106 - Intuitive Geometry 3 unit(s)

### Science (15 units)

*For the CSET waiver, students need to take PHYS 1 AND CHEM 30A.*

- BIOL 21 - Human Biology 3 unit(s) (B2+B3)
- CHEM 30A - Introductory Chemistry 3 unit(s) (B1+B3)
- GEOL 103 - Earth Systems and the Environment 3 unit(s) (R)
- PHYS 1 - Elementary Physics 3 unit(s) (B1)

### Complete One Course From:

- ENVS 158 - Environmental Education 3 unit(s)
- SCI 110 - Global Themes of Science 3 unit(s)

### Visual and Performing Arts (9 units)

- MUSC 10B - Introduction to Music 3 unit(s) (C1)
- CA 177 - Interdisciplinary Arts for Teaching 3 unit(s)

### Complete One Course From:

- ART 39 - Multicultural Arts for Children 3 unit(s)
- ART 138 - Elementary Art Methods 3 unit(s)
- CA 70 - Visual & Media Arts for K-8 Teachers 3 unit(s)
- CA 75 - Performing Arts for K-8 Teachers 3 unit(s)
- DANC 148 - Children's Dance 3 unit(s)
- TA 131 - Storytelling 3 unit(s)
- TA 167 - Theatre in Education 3 unit(s)

### Physical Education and Health (3 units)

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

## History (9 units)

- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

## University Electives (0-1 units)

*Highly recommend Foreign language and technology requirements for teaching credential (see Credential Information Services).*

## Total Units Required (120 units)

\*\*Note Students without the CSET waiver have more flexibility in their GE options.

Note: The following courses, CHAD 159 and CHAD 195, may be repeated only once.

# Child and Adolescent Development, Preparation for Teaching, BA

This major is designed for students interested in teaching in elementary school or middle school. The following course work, offered by the Department of Child and Adolescent Development, satisfies San José State University's requirements for a BA in Child and Adolescent Development (ChAD). The SJSU pattern of Preparation for Teaching course requirements is designed for students who begin their college careers in this major. New students or transfer students in this BA track should see a department advisor during the first semester for a list of the required courses. Students who are transfers or who are changing into this major, in consultation with a department advisor, identify the course work appropriate for the individual. Information about ChAD advising and to make an appointment can be found on the department website: [www.sjsu.edu/chad/chad-resources/advising/index.html](http://www.sjsu.edu/chad/chad-resources/advising/index.html).

The Commission on Teacher Credentialing in the state of California (CCTC) recognizes Teacher Prep degrees as verification of subject matter competence. The following course work satisfies San José State University's requirements for a BA in ChAD, Preparation for Teaching. The department also has a program approved by the CCTC for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential. There are different requirements for this waiver option. If interested see Preparation for Teaching w/CSET waiver.

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Requirements	39
Multiple Subjects Preparation Core	33-34
University Electives	9-10
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (39 units)

### Lower Division ChAD Core (12 units)

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (May substitute STAT 95 with SOCS 15/SOCI 15)

### Upper Division ChAD Core (27 units)

- CHAD 101 - Research Methods in Child Development 3 *unit(s)*
- CHAD 159 - Child Development K-8 Practicum 3 *unit(s)*
- CHAD 168 - Social and Emotional Development in Childhood and Adolescence 3 *unit(s)*
- CHAD 169 - Motivating Children and Adolescents in Educational Settings 3 *unit(s)*
- CHAD 170 - Contextual Influences on Cognitive Development 3 *unit(s)*
- CHAD 195 - Senior Seminar in Child Development 3 *unit(s)*

### Complete One Course From:

- CHAD 100W - Writing Workshop 3 *unit(s)* (Z)
- LLD 100W - Writing Workshop 3 *unit(s)* (Z)

### Complete One Course From:

- CHAD 162 - Childhood and Adolescence in a Multicultural Society 3 *unit(s)*



- CHAD 164 - Contemporary Parenting 3 *unit(s)*

### Complete One Course From:

- CHAD 163 - Critical Issues in Adolescent Development 3 *unit(s)*
- CHAD 173 - Crit. Issues in Infant/Toddler Develop. 3 *unit(s)*

## Multiple Subjects Preparation Core Curriculum (33-34 units)

Additional requirements for Multiple Subjects Preparation Core Curriculum

### Language and Literature (15-16 units)

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 112A - Children's Literature 3 *unit(s)*
- CHAD 150 - Development of Communicative Competence 3 *unit(s)*
- CHAD 151 - Developing Literacy in a Diverse Society 3 *unit(s)*

### Complete One Course From:

- ENGL 103 - Modern English 4 *unit(s)*
- LING 107 - Patterns of English 3 *unit(s)*

### Mathematics (9 units)

- MATH 12 - Number Systems 3 *unit(s)* (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 106 - Intuitive Geometry 3 *unit(s)*

### Science (3 units)

Complete one course from:

- SCI 110 - Global Themes of Science 3 *unit(s)*
- ENVS 158 - Environmental Education 3 *unit(s)*

### Visual and Performing Arts (3 units)

Complete one course from:

- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*
- ART 39 - Multicultural Arts for Children 3 *unit(s)*
- ART 138 - Elementary Art Methods 3 *unit(s)*
- DANC 148 - Children's Dance 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*
- TA 167 - Theatre in Education 3 *unit(s)*

## Physical Education and Health (3 units)

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

## University Electives (9-10 units)

*Highly recommend Foreign language and technology requirements for teaching credential (see Credential Information Services).*

## Total Units Required (120 units)

**\*\*Note for students taking the CSET waiver path, there are specific GE requirements (see Preparation for Teaching w/CSET waiver).**

Note: The following courses, CHAD 159 and CHAD 195, may be repeated only once.

## Master

### Child and Adolescent Development, MA

The Master of Arts degree in the Department of Child and Adolescent Development (ChAD) prepares students for advanced study leading to a doctorate in the field; for community college teaching; and for professional careers in settings that serve children, youth, and families.

Detailed information about the program can be found on the department website: [www.sjsu.edu/chad/programs/ma-chad](http://www.sjsu.edu/chad/programs/ma-chad).

## Admissions Requirements

Candidates apply separately to the university to obtain approval for university-level admission and to the department to obtain admission to the ChAD master's program. Candidates must meet all the university admission requirements. Note that applicants must have an undergraduate grade point average of 3.0 (B) or better in the last 60 semester units of undergraduate work.

In addition to meeting university requirements, the minimum requirement for admission to the ChAD MA program is 1) a baccalaureate degree awarded by an accredited institution, 2) a completed department application, 3) three letters of recommendation, 4) a 1-2-page typed statement of educational and professional background and professional goals, and 5) an essay on various topic areas in child and adolescent development. In addition, students have the option of submitting GRE scores which will be evaluated within the context of all the applicant's materials. Preference is given to candidates with a background in ChAD or a related field (e.g., Psychology, Sociology, Education, Social Work, Nursing). Applicants can be admitted either in a conditional or classified status.

Applicants from countries in which the official language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

# Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the Graduate Studies website.

During the semester that the first 9 units of coursework will be completed, the ChAD MA candidate will need to submit a Departmental Request for Candidacy form [pdf]. This form must be signed by the ChAD graduate program coordinator and submitted to GAPE by the appropriate deadline. Check the deadline for submitting the Petition for Advancement to Graduate Candidacy. Any changes made in the program degree academic plan as listed on the candidacy form need to be requested using the Request for Course Substitution in Graduate Degree Program [pdf]. This form must be signed by the ChAD graduate program coordinator prior to submission to GAPE.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA - Child and Adolescent Development Graduation Requirements

Students are expected to complete all required courses and select three electives from the department-approved list. In order to meet degree requirements, candidates for the MA in ChAD must maintain a 3.0 GPA in all courses with no single course grade below a B-. Students who earn less than a B- in any required course (CHAD 260A, CHAD 260B, CHAD 262, CHAD 266, CHAD 268, and CHAD 270) must retake the course and earn a grade of B- or better. For electives in which the earned grade was less than a B-, students have the option to retake the same course or to select a different elective.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing CHAD 260A.*

#### Masters Requirements (30 units)

#### Core Courses (18 units)

- CHAD 260A - Seminar in Child and Adolescent Development: Research 3 *unit(s)* (GWAR)

- CHAD 260B - Seminar in Child and Adolescent Development 3 *unit(s)*
- CHAD 262 - Multicultural Issues in Child and Adolescent Development 3 *unit(s)*
- CHAD 266 - Social Policy Issues in American Childhood and Youth 3 *unit(s)*
- CHAD 268 - Seminar in Social and Emotional Development 3 *unit(s)*
- CHAD 270 - Seminar in Cognitive and Language Development 3 *unit(s)*

## Electives (9 units)

Three department-approved elective courses\*\*

## Culminating Experience (3 units)

**Complete One Option (Plan A or Plan B):**

### Plan A (Thesis)

- CHAD 299 - Master's Thesis 3-6 *unit(s)*

### Plan B (Project)

- CHAD 298 - Special Studies in Child and Adolescent Development 3-6 *unit(s)*

## Total Units Required (30 units)

\* Meets the Graduation Writing Assessment Requirement (GWAR). Must be taken in the first semester of enrollment.

\*\*Elective courses must be selected from the department-approved list. The maximum number of upper-division undergraduate units that can be applied to the ChAD MA degree requirements is three.

\*\*\*To be completed concurrently with CHAD 260B.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Atypical Child Studies Minor

The courses for this minor provide a solid foundation in both normative and atypical early childhood development. The minor is particularly beneficial for students who plan to pursue careers in a number of branches of the social and life sciences, education, medicine and other human services professions focusing on atypical infants/children and their families.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Core Courses (9 units)

- CHAD 60 - Child Development 3 *unit(s)* (E)
- EDSE 104 - Atypical Development in Young Children 3 *unit(s)*
- EDSE 108 - Assessment and Evaluation: Atypical Young Children 3 *unit(s)*

### Elective Courses (6 units)

Complete two courses from:

- CHAD 152 - Foundations for Early Childhood Curriculum 3 *unit(s)*
- CHAD 161 - Administration of Early Childhood Progs 3 *unit(s)*
- CHAD 164 - Contemporary Parenting 3 *unit(s)*
- CHAD 168 - Social and Emotional Development in Childhood and Adolescence 3 *unit(s)*
- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)

## Total Units Required (15 units)

## Child and Adolescent Development Minor

The courses for the minor in Child & Adolescent Development offer a range of opportunities to examine the course of human development with special emphasis on the period from infancy through adolescence. The minor is particularly appropriate for students planning to enter the fields of education, social welfare, nursing, child care, and other human services professions.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)

### Complete Three Courses From:

- CHAD 104 - Program Evaluation and Assessment in Community-Based Programs 3 *unit(s)*
- CHAD 150 - Development of Communicative Competence 3 *unit(s)*
- CHAD 151 - Developing Literacy in a Diverse Society 3 *unit(s)*
- CHAD 152 - Foundations for Early Childhood Curriculum 3 *unit(s)*
- CHAD 157 - Adult Supervision for Programs Serving Children, Youth, and Families 3 *unit(s)*
- CHAD 161 - Administration of Early Childhood Progs 3 *unit(s)*
- CHAD 162 - Childhood and Adolescence in a Multicultural Society 3 *unit(s)*
- CHAD 163 - Critical Issues in Adolescent Development 3 *unit(s)*

- CHAD 164 - Contemporary Parenting 3 *unit(s)*
- CHAD 165 - Risk and Resilience in a Community Context 3 *unit(s)*
- CHAD 168 - Social and Emotional Development in Childhood and Adolescence 3 *unit(s)*
- CHAD 169 - Motivating Children and Adolescents in Educational Settings 3 *unit(s)*
- CHAD 170 - Contextual Influences on Cognitive Development 3 *unit(s)*
- CHAD 173 - Crit. Issues in Infant/Toddler Develop. 3 *unit(s)*

## Total Units Required (15 units)

### *CHAD 60 - Child Development*

3 *unit(s)*

The child in the family and community from prenatal life throughout the adolescent years. Observation required.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *CHAD 70 - Lifespan Development in the 21st Century*

3 *unit(s)*

Understanding life-long development in the 21st century is promoted through studying theories, research, and the role of culture in shaping physical, cognitive, social, and emotional development. We explore commonalities and differences in human development to understand ourselves as global citizens.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *CHAD 75 - Imagination, Play and Adult Creativity*

3 *unit(s)*

Explores childhood play and imagination as well as adult creativity and the influence of value systems, economic structures, political institutions, social groups and natural environments on the development of play, imagination and creativity.

*Satisfies D1: Human Behavior*

**Grading:** Graded

### *CHAD 92 - International Studies Program*

1-12 *unit(s)*

**Grading:** Mixed Grading

### *CHAD 100W - Writing Workshop*

3 *unit(s)*

Development of advanced skills in writing, particularly in the field of child development. Focus on development of a mature writing style and organization of persuasive and analytical prose.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*CHAD 101 - Research Methods in Child Development*

*3 unit(s)*

Study of various techniques and methods used in child development research. Development of proposal writing skills.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 102 - Development of Self in a Culturally Diverse Society*

*3 unit(s)*

Examines the influence of various institutions and society on the psychosocial development of children and adolescents from culturally diverse backgrounds in the United States.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CHAD 104 - Program Evaluation and Assessment in Community-Based Programs*

*3 unit(s)*

Optimizing services for children and families requires knowledge and skills in program evaluation and assessment. Through lecture, discussion and case studies, students are introduced to the principles and varied methods of evaluation, and to underlying ethical issues and cultural competencies.

**Prerequisite(s):** CHAD 60

**Grading:** Graded

*CHAD 106 - Concepts of Childhood*

*3 unit(s)*

Explores the historical diversity in the ways in which childhood has been defined; investigates diverse cultural definitions of childhood; examines the impacts of those beliefs and definitions on human development.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CHAD 130 - Coding for Scientific Discovery*

*3 unit(s)*

The physical universe and its life forms are studied through scientific investigations (via computer modeling/coding) that reflect the epistemology and reasoning of scientific practices. These investigations are contextualized with issues related to diversity, equity, ethics, and the teaching/learning of science.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CHAD 131 - Equity, Resilience, and Risk in Public Schools*

*3 unit(s)*

Students study the interrelationship of individuals, racial groups, and cultural groups to understand and appreciate issues of diversity, equality, and structured inequality in the U.S., its institutions, and its cultures. Specifically, students explore micro and macro influences that place children's educational trajectory and achievement at risk. Students examine protective factors, at both micro and macro levels, that can help achieve educational equality for all children.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CHAD 132 - Education from a Global Perspective*

*3 unit(s)*

Explores the meaning of education as a concept, or philosophy, both within the US and around the globe. Concepts of education, such as education as empowerment or education as meeting national goals, are examined. Explores how educational traditions outside the US have influenced American education systems (with respect to culture and societal norms), how cultures develop distinctive education systems and how those education systems interact with education systems in other cultures. Provides a foundation for understanding K-8 visual and performing arts standards as well as standards for K-8 history and social studies.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.



**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CHAD 133 - Introduction to K-8 Math/Science Instruction*

*3 unit(s)*

Introduction to effective instruction and assessment in K-8 math/science. Reviews learning and pedagogical theories and methods for adapting curriculum for all learners. Reviews developmental processes related to achievement in math/science. Students develop knowledge of Common Core Standards for math/science.

**Prerequisite(s):** Upper division standing; probationary admission to the ChAD credential program; and passing the CBEST.

**Grading:** Graded

*CHAD 134 - K-8 Math & Science Practicum*

*6 unit(s)*

Prepares teachers to teach mathematics and science in culturally, ethnically, and linguistically diverse K-8 classrooms. Examines the rationale for interdisciplinary curriculum design and enables students to make informed decisions about creating and implementing interdisciplinary curriculum that strengthens the teaching/learning process.

**Prerequisite(s):** Upper division standing; admission to the ChAD credential program; passing the CSET; CHAD 133; Certificate of Clearance from the CTC; and current (last 3 years) TB tests (negative results).

**Grading:** Graded

*CHAD 135 - Development of Language & Literacy in Children*

*3 unit(s)*

An overview of the development of children's communicative competence as well as the foundations of language and literacy in the context of a diverse, technologically complex society. Course content covers theories, contexts for development; linguistic diversity, and information/media literacy.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing, passage of 100W, and acceptance into the ChAD BA Credential Program.

**Grading:** Graded

*CHAD 136 - Foundations of K-8 Language Arts & Social Studies*

*3 unit(s)*

Introduction to effective instruction and assessment in reading/language arts/social studies. Reviews learning/pedagogical theories, methods for adapting curriculum for all learners, and developmental processes underlying achievement in these areas. Students develop knowledge of Common Core Standards for language arts/social science.

**Prerequisite(s):** Upper division standing, Admission to the ChAD credential program and a passing score on the CBEST and CSET.

**Grading:** Graded

*CHAD 137 - K-8 Language Arts & Social Studies Practicum*

6 unit(s)

Prepares educators to teach language arts/social science in culturally, ethnically, and linguistically diverse K-8 classrooms. Discusses methods/strategies and development of a balanced, comprehensive, evidence-based program that addresses the needs of all learners. Technology use and curricular integration are explored.

**Prerequisite(s):** Admission to the ChAD credential program, CHAD 136, and a passing score on the CBEST and CSET.

**Grading:** Graded

*CHAD 138 - K-8 Student Teaching and Seminar*

12 unit(s)

Supervised teaching in a public school classroom. Student Teaching in the field and seminar on campus. Students explore their teaching experiences in the context of research on effective teaching and learning and complete the Cal-TPA. Meets all requirements for student teaching.

**Prerequisite(s):** Admission to the ChAD credential program; Certificate of clearance, and passage of the CBEST and CSET; Program Director Consent.

**Grading:** Credit / No Credit

*CHAD 149 - Child Health and Physical Activity*

3 unit(s)

An integrative approach to understanding the multiple factors that impact children's health and physical fitness and that influence the development of lifelong habits. Emphasis is on the inter-relationships between health and fitness and cognitive, social, and emotional well-being.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 150 - Development of Communicative Competence*

3 unit(s)

Survey of major topics in the development of communicative competence (theoretical approaches to understanding language acquisition, contexts for development, language diversity, relationship between language and cognition). Attention given to language acquisition, media influences and language assessment.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 151 - Developing Literacy in a Diverse Society*

3 unit(s)

Knowledge of a balanced literacy approach, including an understanding and use of the major descriptors of developing literacy, appropriate assessment methods and instruments, and a developmental and analytical appreciation for writing strategies, conventions, and applications.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 152 - Foundations for Early Childhood Curriculum*

3 unit(s)

Introduces foundations for implementing developmentally appropriate early childhood education curriculum. Addresses history and theories underlying curriculum models; assessment of children's learning; research and standards applicable to curriculum in language, literacy, and STEAM (science, technology, engineering, arts, and math) content areas.

*A service learning component of 15 hours for the semester is required.*

**Prerequisite(s):** CHAD 60 or Instructor Consent.

**Grading:** Graded

**Note(s):** The majority of approved service learning sites require proof of a negative TB test and background clearance.

*CHAD 157 - Adult Supervision for Programs Serving Children, Youth, and Families*

3 unit(s)

Explores program management and leadership within community-based organizations serving children, youth, and families. Reviews features of positive developmental settings and organizational structure. Builds skill sets for staff supervision and evaluation, developing resources (e.g., fundraising, partnerships, volunteers), and establishing ethical and culturally competent organizations.

*A service learning component of 15 hours for the semester is required.*

**Prerequisite(s):** CHAD 60.

**Grading:** Graded

**Note(s):** The majority of approved service learning sites require proof of a negative TB test and a background clearance.

*CHAD 158 - Practicum in Community-Based Organizations Serving Children and Youth*

3 unit(s)

Practical application of the theoretical information acquired across the Child and Adolescent Development major coursework. Students participate in the context of a community service organization serving youth and families. Course requires 6 hours per week of non-paid fieldwork in an approved non-profit setting. Practicum sites for this course typically require availability during weekday afternoons as well as a TB Test and background check.

*Lecture 1 hours/Lab 6 hours.*

**Prerequisite(s):** CHAD 60

**Grading:** Graded

*CHAD 159 - Child Development K-8 Practicum*

3 unit(s)

Principles, techniques, observation and participation in the guidance of elementary and middle school children. Note: Course requires 5 hours per week of non-paid fieldwork in a public school classroom (K to 8th). Middle school placements must be in a self-contained or core classroom. Practicum sites usually require proof of a TB test (within one year) and a background check.

*Lecture 1 hours/Lab 6 hours.*

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 160 - Child Development Practicum*

3 unit(s)

Principles, techniques, observation and participation in the guidance of children. Students choose from two programs: Toddler Lab (2-3 year olds) and Preschool Lab (3-5 year olds). Students must submit a Background Clearance, TB test dated within 1 year of start of semester, and proof of vaccinations for Measles (MMR), Pertussis (DTaP), and Flu (Influenza, fall semester only).

Lecture 1 hour/Lab 6 hours.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 161 - Administration of Early Childhood Progs*

3 unit(s)

Survey of practices and procedures integral to designing, administrating, and assessing high quality early learning environments. Focus is on parent involvement, staff development, curriculum design, and program development and administration.

**Prerequisite(s):** CHAD 152

**Grading:** Graded

*CHAD 162 - Childhood and Adolescence in a Multicultural Society*

3 unit(s)

Exploration of the agents and processes by which cultural values and social attitudes are transmitted. Interactions of individuals from four groups in the U.S. examined from culturally monolithic and pluralistic perspectives.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 163 - Critical Issues in Adolescent Development*

3 unit(s)

Relationships among major socialization agents (family, peers, school, media). Ethnicity, primary language and socioeconomic status as they affect adolescents.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 164 - Contemporary Parenting*

3 unit(s)

Philosophies and theories of parent-child relationships in a multicultural society.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 165 - Risk and Resilience in a Community Context*

3 unit(s)

This course provides students with an understanding of theories, concepts and research that explain risk and resilience. Students will explore community-based organizations that promote resilience and apply their knowledge of risk and resilience to a variety of settings and contexts.

**Prerequisite(s):** CHAD 60

**Grading:** Graded

*CHAD 168 - Social and Emotional Development in Childhood and Adolescence*

3 unit(s)

Understanding issues in social and emotional development and processes of development underlying the emergence of self, social behavior, and emotional competence. Study coping and models of resiliency as related to familial and extrafamilial contexts of social and emotional development.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 169 - Motivating Children and Adolescents in Educational Settings*

3 unit(s)

Perspectives of psychoanalysis, individual psychology, behaviorism and cognitive psychology as applied to the motivation of children and adolescents in educational settings.

**Prerequisite(s):** CHAD 60 and PSYC 1 (or equivalent) or instructor consent.

**Grading:** Graded

*CHAD 170 - Contextual Influences on Cognitive Development*

3 unit(s)

Survey of major topics and issues in cognitive development and the acquisition of communication skills. The influence of family, school and cultural environment on these developmental changes.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*CHAD 173 - Crit. Issues in Infant/Toddler Develop.*

3 unit(s)

Surveys infant and toddler development in five domains (i.e. social, emotional, cognitive, language, physical) as well as relevant contexts (e.g. culture). Attention given to best practices in infant and toddler care and factors that place infants and toddlers at risk.

**Prerequisite(s):** CHAD 60 (or equivalent) and PSYC 1.

**Grading:** Graded

*CHAD 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Program director consent.  
**Grading:** Credit/No Credit

*CHAD 192 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*CHAD 195 - Senior Seminar in Child Development*

3 unit(s)  
Advanced study of recent and seminal research and writing in the area of child and adolescent development.

**Prerequisite(s):** CHAD major, 12 units completed in CHAD, senior standing, and completion of CHAD 100W or LLD 100W with a grade of 'C' or better ('C-' not accepted).  
**Grading:** Graded

*CHAD 199 - Senior Honors Thesis*

1-3 unit(s)  
Supervised thesis. Enrollment limited to qualified senior child and Adolescent development majors.

**Prerequisite(s):** Senior or graduate standing and instructor consent.  
**Grading:** Credit/No Credit

*CHAD 260A - Seminar in Child and Adolescent Development: Research*

3 unit(s)  
Advanced study of recent child and adolescent development research. Examination of quantitative and qualitative research methodologies used in the field.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing; 12 units in CHAD or related disciplines; CHAD 101 (or equivalent); CHAD majors.  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CHAD 260B - Seminar in Child and Adolescent Development*

3 unit(s)  
Capstone course with advanced study of recent research and writings in the area of child and adolescent development. Course includes completion of the cumulative experience project.

**Prerequisite(s):** Graduate standing; 9 units in CHAD MA core courses, co-registration in CHAD 298; CHAD majors.  
**Grading:** Graded

*CHAD 262 - Multicultural Issues in Child and Adolescent Development*

3 unit(s)

Examination of factors influencing the psychosocial development of children and adolescents in a multicultural society. Theoretical and methodological issues affecting the understanding of diversity in child development are also explored.

**Prerequisite(s):** 9 units in CHAD or related disciplines.

**Grading:** Graded

*CHAD 266 - Social Policy Issues in American Childhood and Youth*

3 unit(s)

Survey of issues in child and adolescent development which are the topics of national debate in the United States. Research background and social policy implications of these topics are addressed.

**Prerequisite(s):** 9 units in CHAD or related disciplines.

**Grading:** Graded

*CHAD 268 - Seminar in Social and Emotional Development*

3 unit(s)

Examination of current issues in childhood and adolescent social and emotional development: processes underlying self-esteem and self-control and emergence of the self. Contributions of family, school and society are considered.

**Prerequisite(s):** 9 units in CHAD or related disciplines.

**Grading:** Graded

*CHAD 270 - Seminar in Cognitive and Language Development*

3 unit(s)

Examination of major topics in cognitive and language development: stages of development, nature/nurture controversy, stability of behavior over time. Individual differences in cognition and cognitive styles are also explored.

**Prerequisite(s):** 9 units in CHAD or related disciplines.

**Grading:** Graded

*CHAD 298 - Special Studies in Child and Adolescent Development*

3-6 unit(s)

Supervised study in the field of child development.

**Prerequisite(s):** Admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

*CHAD 299 - Master's Thesis*

3-6 unit(s)

Supervised thesis in the field of child development.

**Prerequisite(s):** Admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

# Department of Communicative Disorders and Sciences

**Office:** Sweeney Hall 114

**Telephone:** 408-924-8980 (Voice); 408-924-3641 (Fax)

## Professors

Shaum Bhagat  
Paul Cascella  
Michael L. Kimbarow  
June McCullough  
Jean Novak

## Associate Professors

Nidhi Mahendra, Chair  
Wendy Quach  
Pei-Tzu Tsai

## Assistant Professors

Lyle Lustigman

## Overview

The mission of the Department of Communicative Disorders and Sciences is to provide rigorous academic and clinical preparation for students seeking careers working with individuals with communication disorders, and their families. One of the first Communicative Disorders and Sciences programs in California, the department has prepared students for careers as speech-language pathologists and audiologists for more than 40 years. Speech-language pathologists identify, evaluate and treat children and adults with speech-language, cognitive-communicative, and swallowing disorders. Audiologists diagnose and treat individuals with hearing or balance disorders. Our academic and pre-clinical undergraduate curriculum provides the basis for further graduate study, required for a career in either field. Our Master's Degree in Education with a concentration in Speech Pathology is accredited by the Council on Academic Accreditation of the American Speech-Language and Hearing Association. Both members of the SJSU community and the larger community receive speech-language and hearing services at the Kay Armstead Center for Communication Disorders (Sweeney Hall 118B).

## Undergraduate

### Communicative Disorders and Sciences, BA

- Department of Communicative Disorders and Sciences
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38



Major Preparation	15-18
Major Requirements	42
University Electives	22-25
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

Communicative Disorders and Science courses are only offered once per year. That means that students begin CDS courses in Fall semesters only, as Spring semester courses cannot be taken without having completed the Fall semester prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (18 units)

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (15-18 units)

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

### Complete One Course From:

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2B3)
- BIOL 10 - The Living World 3 *unit(s)* (B2)
- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)

### Complete One Course From:

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1) (*must also take PHYS 1L*)

### Complete One Course From:

- ANTH 11 - Cultural Anthropology 3 unit(s) (D1)
- GERO 107 - Aging and Society 3 unit(s) (S)
- PSYC 1 - Introduction to Psychology 3 unit(s) (D1)
- PSYC 82 - Foundations of Developmental Psychology 3 unit(s)
- SOCI 80 - Social Problems 3 unit(s) (D3)
- UNVS 57 - Community Involvement and Personal Growth 3 unit(s)

### Complete One Course from (with Advisor Approval):

- CHAD 60 - Child Development 3 unit(s) (E)
- PH 15 - Human Life Span 3 unit(s) (D1)
- PSYC 102 - Psychology of Childhood 3 unit(s)

### Major Requirements (42 units)

#### Core Courses (36 units)

- EDSP 102 - Language Development in Children 3 unit(s)
- EDSP 110 - Resources for Human Communication Disorders 3 unit(s)
- EDSP 111 - Introduction to Phonetics 3 unit(s)
- EDSP 112 - Principles of Assessment and Treatment in Communicative Disorders 3 unit(s)
- EDSP 113 - Speech Science 3 unit(s)
- EDSP 120 - Communicative Disorders in Children 3 unit(s)
- EDSP 161 - Normal Processes of Speech, Language and Hearing 3 unit(s)
- EDSP 162 - Communicative Disorders in Adults 3 unit(s)
- EDSP 176 - Guided Professional Clinical Observations 3 unit(s)
- EDAU 115 - Introductory Hearing Science 3 unit(s)
- EDAU 170 - Audiology I 3 unit(s)
- EDAU 172 - Introduction to Principles of Aural Rehabilitation 3 unit(s)

#### Practicum (6 units)

*Placement in clinical practica is contingent upon class availability, major GPA verification of 3.0+ and an overall GPA of 2.7+. Students who do not receive a clinic placement will need to see their advisor to submit a course substitution form.*

- EDSP 177 - Practicum in Speech Pathology 1-3 unit(s)
- EDAU 177 - Practicum in Audiology 1-3 unit(s)

#### University Electives (22-25 units)

*Selected in conference with advisor (may include a minor).*

#### Total Units Required (120 units)

## Master

### Education, Speech Pathology Concentration, MA

The Department of Communicative Disorders and Sciences (CD&S) Master's degree program offers an in-depth study of communication disorders with an emphasis on articulation and phonological disorders, fluency disorders (stuttering), augmentative and alternative communication, voice disorders, dysphagia (swallowing disorders), neurogenic disorders, hearing disorders, language disorders, social aspects of communication, and cognitive-communication disorders. Courses and clinical training opportunities place a high priority on assessment and intervention within an evidence-based, ethical, and multicultural framework. Clinical practica are completed in varied settings, including the Kay Armstead Center for Communication Disorders housed in the department. Students have clinical opportunities for working with infants, toddlers, children, adolescents, and adults in multiple settings, including public, private and charter schools (preschool, elementary, middle, high schools), rehabilitation agencies, private practices, skilled nursing facilities, and hospitals.

Detailed information about the program can be found on the department website:  
[www.sjsu.edu/cds/programs/master-deg-prog](http://www.sjsu.edu/cds/programs/master-deg-prog).

## Admissions Requirements

Applicants must meet all university admission requirements. The university-level graduate application is separate from the application you send to the department. You will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into Master of Arts in Education with a concentration in Speech Pathology. Depending on their level of preparation, students can be admitted in either classified or conditionally classified standing. Minimum requirements for admission in classified standing are a completed bachelor's degree or post-baccalaureate program in communication disorders. An applicant holding a bachelor's degree in another field of study may be admitted with conditionally classified standing. The admissions letter will detail the preparatory coursework required for advancing to classified standing in the program. Additional requirements for international students are listed below.

## Admission to the Department

Applicants who meet the following criteria beyond university requirements will be considered for classified admission into the Department of Communicative Disorders and Sciences. The department admission process requires three (3) application processes and nine (9) tasks:

1. Via Communication Sciences and Disorders Centralized Application Service (CSDCAS)
  1. Official Transcripts (3.0 minimum GPA)
  2. Essay(reasons for pursuing Speech-Language Pathology; reasons for San Jose State University; personal qualities; any additional information)
  3. Graduate Record Exam (GRE) Score. Minimum GRE score requirements can be found on the Graduate Program Test Requirement webpage at GAPE
  4. Three Letters of Recommendation
  5. Transcript Evaluation Report (for International Students)
2. Via the San Jose State University Office of Applications and Program Evaluation (GAPE)
  6. Official Transcripts
  7. English-Language Skills Verification
3. Via the Departmental Office
  8. CBEST Scores

A minimum scaled score of 41 in each of the three sections (reading, writing, mathematics). A section score as low as 37 is acceptable if the total scaled score is at least 123.

We generally refer students to take the California Basic Educational Skills Test (CBEST) but you do not have to if you meet one of the other options outlined in the CTC leaflet cl-667. To submit test scores from one of the CTC leaflet alternatives, you must contact the SJSU Credentials Office ([credentials@sjsu.edu](mailto:credentials@sjsu.edu)) to verify the validity of your scores before submitting them to CSDCAS. The deadline for submission is February 1.

Applicants from countries in which the official native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Candidacy (Program Continuation)

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. The department's GWAR is met by completing EDSP 221 with a grade of B or better.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA - Speech-Language Pathology Requirements

Students are expected to complete all required courses, the culminating experience, clinical practica, and observations. In order to meet degree requirements, candidates for the MA in Education with a concentration in Speech Pathology must maintain a 3.0 GPA in all courses with no single course grade below a B-. Students who earn less than a B- in any required course must retake the course and earn a grade of B- or better.

In addition to the CDS curriculum, students must demonstrate knowledge of five additional content areas as required by the American Speech-Language-Hearing Association (ASHA) and the California Commission on Teacher Credentialing (CCTC). They are ASHA Requirement 1: Biological Sciences; ASHA Requirement 2: Social/Behavioral Sciences; ASHA Requirement 3: Physical Sciences; ASHA Requirement 4: Statistics; and CCTC Requirement Child and/or Adolescent Development.

Candidates for the Master's degree must accumulate a minimum of 375 clock hours in a supervised clinical practicum in three distinctively different settings and 25 hours of observation.

Prior to providing any speech-language assessment or intervention services during clinical practica, students must show evidence of all of the following: (a) Certificate of Clearance, (b) Negative TB (tuberculosis) test, (c) Negative Hepatitis test, (d) Physical Clearance to provide speech-language pathology services, (e) successful completion of

online training related to HIPAA (Health Insurance Portability and Accountability Act), and (f) CPR (Cardiopulmonary resuscitation) Certification.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*Program GWAR fulfilled by EDSP 221.*

## Culminating Experience

### Plan C (Comprehensive Exam)

All students in the MA, Education, Concentration in Speech Pathology program must successfully complete the Comprehensive Examination during their last semester (Spring semester of the second year). The examination assesses broad knowledge and competency across topics in speech, language, hearing, cognitive-communication, and swallowing disorders. Upon completion of the program, students receive a Master of Arts degree and are eligible to work as speech-language pathologists.

### Plan A (Thesis)

Students who have a strong interest in research may be approved to complete the Thesis (Plan A). It requires students to secure a thesis advisor and a thesis committee and enroll in EDSP 299 - Master's Thesis during the Fall semester of the second year. (Enrolling in the EDSP 299 adds 3 units to the program for a total of 66 units.) Students electing to take this option must also successfully complete the comprehensive examination. Theses must be defended and approved by the thesis committee and follow the College of Graduate Studies Master's Thesis and Doctoral Dissertation Guidelines.

## Masters Requirements (63 units)

### Core Courses (39 units)

- EDSP 221 - Research Seminar in Communicative Disorders 3 unit(s) (GWAR) (Students must earn a B (3.0) or better in EDSP 221)
- EDSP 222 - School Age Language, Literacy, and Social Comm. 3 unit(s)
- EDSP 250 - Seminar in Voice Disorders 3 unit(s)
- EDSP 251 - Seminar in Phonological Disorders 3 unit(s)
- EDSP 252 - Seminar Fluency Disorders 3 unit(s)
- EDSP 254 - Seminar in Neurological Disorders 3 unit(s)
- EDSP 255 - Seminar in Motor Speech Disorders 3 unit(s)
- EDSP 259 - Seminar in Language Disorders in Children 3 unit(s)
- EDSP 260 - Seminar in Dysphagia 3 unit(s)
- EDSP 262 - Speech and Language in a Cross-Cultural Society 3 unit(s)
- EDSP 264 - Contemporary Professional Issues 3 unit(s)
- EDSP 265 - Seminar in Cognitive Disorders 3 unit(s)
- EDSP 288 - Seminar in AAC and Communication Disorders 3 unit(s)

### Practicum (24 units)

- EDSP 269 - Field Experience in Public Schools - Speech Pathology and Audiology 6 unit(s)
- EDSP 276 - Practicum in Advanced Assessment 3 unit(s)
- EDSP 277 - Advanced Practicum-Speech Pathology 1-3 unit(s) (Students take EDSP 277 (3 units) three times for a total of 9 units)
- EDSP 278 - Clinical Management and Practicum 6-10 unit(s) (Students take EDSP 278 once for a total of 6 units)

## Culminating Experience (0-3 units)

### Complete One Option (Plan A or Plan B):

#### Plan A (Thesis)

*The Plan A (Thesis) option add 3 units to program requirements and requires approval from the graduate advisor*

- EDSP 299 - Master's Thesis 1-4 unit(s) (3 units required)
- Comprehensive Exam

#### Plan B (Comprehensive Exam)

- Comprehensive Exam

## Total Units Required (63 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

### *EDAU 115 - Introductory Hearing Science*

3 unit(s)

Anatomy, physiology and psychoacoustics of the auditory system; theories of hearing and physics of sound.

**Prerequisite(s):** CDS major, upper division standing, or instructor consent.

**Grading:** Graded

### *EDAU 116 - Audiology for Speech-Language Therapists*

3 unit(s)

Anatomy, physiology and psychoacoustics of the auditory system; theories of hearing and physics of sound.

**Prerequisite(s):** CDS major, upper division standing, or instructor consent.

**Grading:** Graded

### *EDAU 170 - Audiology I*

3 unit(s)

Theory and application of the fundamentals of pure tone and speech, audiometric procedures and immittance measurements basic to identification audiometry and the differential diagnosis of peripheral auditory problems.

**Prerequisite(s):** EDAU 115 or instructor consent.

**Grading:** Graded

*EDAU 172 - Introduction to Principles of Aural Rehabilitation*

3 unit(s)

Principles and methods of aural rehabilitation procedures. Components include development of listening, visual and oral communication skills; psycho-social aspects of hearing loss.

**Prerequisite(s):** EDAU 115 and EDAU 170.

**Grading:** Graded

*EDAU 177 - Practicum in Audiology*

1-3 unit(s)

Supervised clinical experience in basic testing and treatment of children and adults with communicative disorders due to hearing impairments.

**Prerequisite(s):** EDAU 170 and EDAU 172 or instructor consent.

**Grading:** Credit/No Credit

*EDAU 180 - Individual Studies*

1-3 unit(s)

Supervised study in specific fields of audiology not covered by offered courses.

**Prerequisite(s):** Upper division standing and area coordinator consent.

**Grading:** Credit/No Credit

*EDAU 257 - Seminar in Audiology*

3 unit(s)

Current issues impacting the practice of audiology.

**Prerequisite(s):** 6 units of graduate work or instructor consent.

**Grading:** Graded

*EDAU 273 - Aural Rehabilitation*

3 unit(s)

Aural rehabilitative services and procedures for the hearing impaired. Emphasis on governmental agencies, community services, especially for adult and geriatric populations, school programs and the professional role and responsibilities of the audiologist.

**Grading:** Graded

*EDAU 277 - Advanced Practicum in Aural Rehabilitation*



1-3 unit(s)

Supervised advanced clinical experience with children and adults with complex communicative disorders due to hearing impairments, leading to independence in administering therapeutic services.

**Prerequisite(s):** EDAU 177, EDAU 172 (or equivalent) and instructor consent.

**Grading:** Graded

*EDAU 298 - Special Studies*

1-3 unit(s)

Supervised study in a specific field of audiology.

**Prerequisite(s):** Consent of area coordinator.

**Grading:** Mandatory CR/NC/RP

*EDSP 102 - Language Development in Children*

3 unit(s)

Students will acquire knowledge concerning the language learning process and theories as well as the factors that intervene in its normal development. We will review linguistic terminology, components in language, stages of language development, and language diversity factors.

**Prerequisite(s):** CDS major or instructor consent.

**Grading:** Graded

*EDSP 110 - Resources for Human Communication Disorders*

3 unit(s)

Scope of human communication disorders and public attitudes affecting educational, sociological, psychological and vocational opportunities of the communication disordered. Management resources for the communication handicapped.

**Prerequisite(s):** CDS major, upper division standing, or instructor consent.

**Grading:** Graded

*EDSP 111 - Introduction to Phonetics*

3 unit(s)

Principles of the International Phonetic Alphabet and their application.

**Prerequisite(s):** CDS major, upper division standing, or instructor consent.

**Grading:** Graded

*EDSP 112 - Principles of Assessment and Treatment in Communicative Disorders*

3 unit(s)

Fundamental principles of assessment and treatment of communicative disorders.

**Prerequisite(s):** EDSP 102, EDSP 111, EDSP 113, or instructor consent.

**Grading:** Graded

*EDSP 113 - Speech Science*

3 unit(s)

Analysis and measurement of the components and processes involved in the production and reception of speech.

**Prerequisite(s):** Communicative Disorders and Sciences major and upper division standing, or instructor consent.

**Grading:** Graded

*EDSP 120 - Communicative Disorders in Children*

3 unit(s)

Etiology and remediation of communicative disorders in children.

**Prerequisite(s):** EDSP 102, EDSP 111, EDSP 113, or instructor consent.

**Grading:** Graded

*EDSP 124 - Assessment in Speech Pathology*

3 unit(s)

Principles and practices of assessment of language, speech and communication disorders. Clinical procedures and theory in diagnostic evaluations.

**Prerequisite(s):** EDSE 102, EDSP 110, EDSP 111 or instructor consent.

**Grading:** Graded

*EDSP 161 - Normal Processes of Speech, Language and Hearing*

3 unit(s)

Normal neuropsychological processes of swallowing, speech, language and hearing. Normal functioning of the nervous system in sensory, cognitive and motor processes.

**Prerequisite(s):** Upper division standing, EDSP 113 or instructor consent.

**Grading:** Graded

*EDSP 162 - Communicative Disorders in Adults*

3 unit(s)

Etiology and remediation of communicative disorders in adults.

**Prerequisite(s):** EDSP 102, EDSP 111, EDSP 113, or instructor consent.

**Grading:** Graded

*EDSP 176 - Guided Professional Clinical Observations*

3 unit(s)

Guided observation experiences in audiology and speech-language pathology; introduction to: clinical reasoning and clinical mindset; professional conduct; clinician-client interactions and perspectives; efficacy and evidence-based practice; inter-professional collaboration; effective oral, listening, nonverbal, and written clinical communication skills.

**Prerequisite(s):** EDSP 102, EDSP 111, EDSP 113

**Grading:** Graded

*EDSP 177 - Practicum in Speech Pathology*

1-3 unit(s)

Supervised clinical experience with children and adults who have speech and language disorders.

**Prerequisite(s):** EDSP 112, EDSP 120 and EDSP 125 or instructor consent.

**Grading:** Credit/No Credit

*EDSP 180 - Individual Studies*

1-3 unit(s)

Supervised study in specific fields of speech pathology.

**Prerequisite(s):** Upper division standing and area coordinator consent.

**Grading:** Credit/No Credit

*EDSP 221 - Research Seminar in Communicative Disorders*

3 unit(s)

An overview of the theory, procedures, application and use of research in educational settings; assist in the study of a specific area of applied research from the current professional literature; and assist in the development of a specific research proposal.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDSP 222 - School Age Language, Literacy, and Social Comm.*

3 unit(s)

Explores and discusses connections between listening, speaking, reading and writing with applications in assessing and planning intervention programs for monolingual and bilingual individuals who have a developmental or acquired language-learning disabilities. Required for speech-language pathologists.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** EDSP 251, EDSP 259, EDSP 262, EDSP 276 or instructor consent.

**Grading:** Graded

*EDSP 250 - Seminar in Voice Disorders*

3 unit(s)

Advanced discussion of human voice production, the perceptual, acoustic, and physiologic characteristics of voice disorders, and clinical implications, with hands-on learning of assessment methods and treatment of functional, organic, and neurological voice disorders across the lifespan.

**Grading:** Graded

*EDSP 251 - Seminar in Phonological Disorders*

3 unit(s)

Establishes a level of advanced competency in the knowledge and understanding of phonology and phonological

disorders: the procedures of analysis, the assessment of phonological disorders and the establishment of intervention strategies as a logical consequence of diagnostic findings.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EDSP 252 - Seminar Fluency Disorders*

*3 unit(s)*

Examines the complex issues related to the clinical management of fluency disorders. Includes contemporary research on etiology, assessment methods and concerns, intervention approaches, interdisciplinary considerations, and technological advancements.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EDSP 254 - Seminar in Neurological Disorders*

*3 unit(s)*

Provides an understanding of the neuropsychological, cognitive and linguistic correlates underlying adult neurological disorders. Assessment and treatment for a variety of disorders emphasized.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EDSP 255 - Seminar in Motor Speech Disorders*

*3 unit(s)*

Provides an understanding of anatomy, physiology and neurology of motor speech disorders. Emphasis on assessment and treatment of apraxia and dysarthrias.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EDSP 259 - Seminar in Language Disorders in Children*

*3 unit(s)*

Provides an understanding of the neuropsychological, cognitive and linguistic correlates of developmental language disorders which underlie the competencies to diagnose and provide treatment for children with language impairments.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EDSP 260 - Seminar in Dysphagia*

*3 unit(s)*

A review of the anatomic, neurologic, physiologic, and behavioral correlates of normal and disordered swallowing across the life-span. Assessment and treatment of swallowing disorders will be emphasized in children and adults with genetic and acquired disorders.

**Prerequisite(s):** EDSP 254, EDSP 255, EDSP 265 or Instructor Consent.

**Grading:** Graded

*EDSP 262 - Speech and Language in a Cross-Cultural Society*

3 unit(s)

Communication development and disorders in bilingual clients. Emphasis on the assessment of such disorders to the bilingual population.

**Grading:** Graded

*EDSP 264 - Contemporary Professional Issues*

3 unit(s)

Organization and development of profit and nonprofit agencies that serve the communicatively impaired. Role and responsibilities of supervisors included.

**Grading:** Graded

*EDSP 265 - Seminar in Cognitive Disorders*

3 unit(s)

Provides a framework for better understanding the process of cross-generational communication and the improvement of communication competencies for interaction with cognitively impaired persons.

**Grading:** Graded

*EDSP 269 - Field Experience in Public Schools - Speech Pathology and Audiology*

6 unit(s)

Supervised teaching in speech pathology and audiology. Two hundred clock hours minimum requirement for credential as speech, language and hearing specialist.

**Prerequisite(s):** TB clearance, CPR, basic physical, Hep B

**Grading:** Graded

*EDSP 276 - Practicum in Advanced Assessment*

3 unit(s)

Supervised clinical experience in assessment of a variety of speech/language disorders. Laboratory and classroom experience required.

**Prerequisite(s):** EDSP 124 and instructor consent.

**Grading:** Graded

*EDSP 277 - Advanced Practicum-Speech Pathology*

1-3 unit(s)

Working with children, adult, and group clients within a clinical practicum setting including preparing lesson plans, analyzing assessment results, developing and implementing therapy activities, collecting data, conducting client conferences and writing reports and home programs.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

*EDSP 278 - Clinical Management and Practicum*

*6-10 unit(s)*

Supervised clinical experience.

**Prerequisite(s):** EDSP 254, EDSP 255, EDSP 276, EDSP 277 and instructor consent.

**Grading:** Credit/No Credit

*EDSP 288 - Seminar in AAC and Communication Disorders*

*3 unit(s)*

Exploration of how augmentative and alternative communication is used for individuals with complex communication needs. The impact of cognition, educational, physical, psychosocial and linguistic aspects of behavior on AAC use, assessment, intervention and research will be explored.

**Prerequisite(s):** EDSP 255, graduate standing or instructor consent.

**Grading:** Graded

*EDSP 298 - Special Studies*

*1-3 unit(s)*

Supervised study in a specific field of speech pathology.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*EDSP 299 - Master's Thesis*

*1-4 unit(s)*

Supervised thesis work in the field of speech pathology.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

## Department of Counselor Education

**Office:** Sweeney Hall 404

**Telephone:** 408-924-3634 (voice); 408-924-4137 (fax)

**Website:** [www.sjsu.edu/counselored/](http://www.sjsu.edu/counselored/)

### Professors

Xiaolu Hu

Jason Laker

Dolores Mena, Chair

### **Associate Professors**

Kyoung Mi Choi  
Lisa Oliver

### **Assistant Professors**

Lorri Capizzi  
Aubrey Uresti

## **Overview**

The Counselor Education Department prepares individuals to work as counselors in culturally and economically diverse K-12 schools, postsecondary education settings, and community-based organizations. The department offers a Master's degree in Counseling and Guidance, a Pupil Personnel Services (PPS) K-12 School Counseling Credential, and a Child Welfare and Attendance (CWA) authorization. Faculty work closely with degree candidates to build effective counseling and assessment skills, nurture reflective thinking and intercultural awareness, and provide the experiences needed to become dynamic culturally-sustaining counselors and leaders committed to advocacy, social justice, and lifelong learning. Graduates are prepared to facilitate individuals' personal and educational success by utilizing counseling approaches that are strength-based and that focus on personal growth, wellness, and development.

## **Master**

### **Counseling and Guidance, MA**

The Counseling and Guidance, MA degree program prepares individuals to apply the theory and principles of guidance and counseling to the provision of support for the personal, social, educational, and vocational development of students, and the organizing of guidance services within elementary, middle and secondary educational institutions. It includes instruction in legal and professional requirements, therapeutic counselor intervention, vocational counseling, and related sociological and psychological foundations.

Additional information is available on the Department of Counselor Education website: [www.sjsu.edu/counselored](http://www.sjsu.edu/counselored).

## **Admissions Requirements**

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MA in Counseling and Guidance. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## **Requirements for Admission to Classified Standing**

Applicants may be fully admitted if they meet the admissions requirements for the Graduate Division and the department's requirements. The minimum requirements for the program are a bachelor's degree in any discipline and a 3.0 GPA. Preference is given to candidates who demonstrate a strong inclination to serve others, an interest in K-12 or postsecondary education, and a commitment to social justice.

1. Candidates must meet all university admission requirements.
2. Department application materials include the items listed below and are to be sent directly to the department office at:

Department of Counselor Education  
San José State University  
One Washington Square, SH 404  
San Jose CA 95192-0073

1. Autobiographical and Professional Goals Statement (two to three pages, double-spaced) that includes the applicant's: a) educational background, b) experiences demonstrating concern and capacity to work with people, c) professional goals in pursuing the degree and/or credential (include areas of interest in counseling), and d) any additional information explaining your interest in the Department of Counselor Education master's degree or credential program.
2. Three (3) letters of recommendation from current or former professors and/or employers who can testify to the applicant's ability to successfully pursue an advanced academic degree and/or discuss the applicant's experience within the proposed field of study. Forms for these letters can be found on the Department of Counselor Education website.
3. Official sealed transcripts from each college/university attended should be sent to:

Graduate Admissions and Program Evaluations  
San José State University  
One Washington Square, SH 404  
San Jose CA 95192-0073

## Admission to Conditionally Classified Standing

Applicants may be conditionally admitted (admitted with conditions) if they meet the admission requirements for the Graduate Division but do not fully meet departmental admissions requirements. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Candidacy

Candidacy denotes that a student is fully qualified to complete the final stages of the Master of Arts degree. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

## Department Requirements

1. Complete 18 units of core courses (EDCO 215, EDCO 218, EDCO 232, EDCO 248, EDCO 266, EDCO 282).
2. Complete 9 units of advanced courses with a "C" or better. These courses can include practicum and fieldwork experience courses.



3. Complete the Graduate Writing Assessment Requirement (GWAR) by completing EDCO 215 or EDCO 266 with a "B" or higher.
4. Maintain an overall graduate GPA of 3.0 or higher.
5. Meet with your advisor to complete the Petition for Advancement to Graduate Candidacy form.

## Requirements for Graduation

### University Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Completion of the degree also requires a minimum grade of "C" in all courses taken and a minimum overall GPA of 3.0.

### Department Requirements

1. Successfully complete all "Requirements for Advancement to Candidacy."
2. Complete 6 practicum/fieldwork units from among (EDCO 267, EDCO 280, EDCO 292, EDCO 293, EDCO 294)
3. Complete 6 units of advanced courses (EDCO 288 and EDCO 289)
4. Complete 12 units of advanced elective courses from among the following: EDCO 227, EDCO 244, EDCO 268, EDCO 279, EDCO 283, EDCO 285, EDCO 286, EDCO 287 (can include additional practicum/fieldwork courses)
5. Complete 3 units (EDCO 221) to develop a project proposal (Plan B) or a thesis proposal (Plan A)
6. Apply for graduation via MySJSU
7. Successfully complete either the project (Plan B, EDCO 298) or thesis (Plan A, EDCO 299)

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing EDCO 215, or EDCO 266 with a grade of B or better.*

### Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience.

#### Plan A (Thesis)

Students selecting the Plan A option will write a master's thesis. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. Thesis proposals must be approved by the graduate committee, which is made up of two department faculty and a third faculty member from outside the department. Students enroll in EDCO 299 - Master's Thesis (3 units).

#### Plan B (Project)

Students selecting the Plan B option will complete a master's project or research paper. These students enroll in EDCO 298 - Special Studies in Counselor Education (3 units).

## Masters Requirements (48 units)

### Core Courses (18 units)

Take EDCO 215 and EDCO 218 in the first semester

- EDCO 215 - Introduction to Counseling and Guidance 3 *unit(s)* (GWAR)
- EDCO 218 - Counseling Process & Techniques 3 *unit(s)*
- EDCO 232 - Law & Ethics in Counseling 3 *unit(s)*
- EDCO 248 - Dynamics of Behavior and Development 3 *unit(s)*
- EDCO 266 - Education and Career Planning 3 *unit(s)* (GWAR)
- EDCO 282 - Assessment for Counselors 3 *unit(s)*

### Advanced Courses in Professional Development (18 units)

(required)

- EDCO 288 - Seminar in Counseling Theory and Practice 3 *unit(s)* (GWAR)
- EDCO 289 - Seminar in Professional Counseling 3 *unit(s)*

Complete 12 Units From:

- EDCO 227 - School-Family-Community Collaboration 3 *unit(s)*
- EDCO 244 - Cultural Perspectives in Counseling 3 *unit(s)*
- EDCO 268 - Lifespan Development 3 *unit(s)*
- EDCO 279 - Advanced Group Process Theory and Practice 3 *unit(s)*
- EDCO 283 - Advanced Educational Assessment 3 *unit(s)*
- EDCO 285 - Trauma Counseling & Crisis Intervention 3 *unit(s)*
- EDCO 286 - Organizational Change and Development 3 *unit(s)*
- EDCO 287 - Comprehensive School Counseling Analysis 3 *unit(s)*

### Practicum and Fieldwork (6 units)

Choice of 2 courses and up to 6 units of *EDCO 292*:

- EDCO 267 - Practicum in Lifespan and Career Development 1-3 *unit(s)*
- EDCO 280 - Multicultural Counseling 3 *unit(s)*
- EDCO 292 - Supervised Experience in Counseling 3-6 *unit(s)*
- EDCO 293 - Practicum in Child and Substance Abuse 3 *unit(s)*
- EDCO 294 - Practicum in Self-Development 3 *unit(s)*

### Research (3 units)

- EDCO 221 - Research in Counselor Education 3 *unit(s)*

### Culminating Experience (3 units)

**Complete One Option (Plan A or Plan B):**

**Plan A (Thesis)**

- EDCO 299 - Master's Thesis 3 *unit(s)*

**Plan B (Project)**

- EDCO 298 - Special Studies in Counselor Education 3 *unit(s)*

**Total Units Required (48 units)**

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy in order to graduate.

## **Credential**

### **K-12 School Counseling Credential**

The Pupil Personnel Services (PPS) School Counseling Credential is a 54-unit program that qualifies individuals to work as school counselors in K-12 public schools. A Child Welfare and Attendance (CWA) specialization, which focuses on issues related to truancy and dropout prevention, can also be obtained by completing 9 units (3 courses) beyond the requirements for the PPS School Counseling Credential.

Individuals admitted into the PPS School Counseling Credential program are eligible to apply for a PPS Internship Credential (valid for up to two years) if they are offered a school counseling position by a local school district before completing the program requirements. To be eligible, a program candidate must have completed a minimum of 9 units with a 3.0 GPA or higher and have passed the CBEST.

### **Credential Requirements (54 units)**

#### **Core Courses (24 units)**

*Take EDCO 215 and EDCO 218 in the first semester*

- EDCO 215 - Introduction to Counseling and Guidance 3 *unit(s)* (GWAR)
- EDCO 218 - Counseling Process & Techniques 3 *unit(s)*
- EDCO 227 - School-Family-Community Collaboration 3 *unit(s)*
- EDCO 232 - Law & Ethics in Counseling 3 *unit(s)*
- EDCO 248 - Dynamics of Behavior and Development 3 *unit(s)*
- EDCO 266 - Education and Career Planning 3 *unit(s)* (GWAR)
- EDCO 282 - Assessment for Counselors 3 *unit(s)*

#### **Complete One Course From:**

- EDCO 244 - Cultural Perspectives in Counseling 3 *unit(s)*
- EDCO 280 - Multicultural Counseling 3 *unit(s)*

## Professional Development Advanced Courses (21 units)

- EDCO 221 - Research in Counselor Education 3 *unit(s)*
- EDCO 279 - Advanced Group Process Theory and Practice 3 *unit(s)*
- EDCO 283 - Advanced Educational Assessment 3 *unit(s)*
- EDCO 286 - Organizational Change and Development 3 *unit(s)*
- EDCO 287 - Comprehensive School Counseling Analysis 3 *unit(s)*
- EDCO 288 - Seminar in Counseling Theory and Practice 3 *unit(s)* (GWAR)

## Complete One Course From:

- EDCO 267 - Practicum in Lifespan and Career Development 1-3 *unit(s)* (3 units required)
- EDCO 268 - Lifespan Development 3 *unit(s)*

## Supervised Experience (9 units)

Complete 9 units (600 hours) of counseling fieldwork experience - 200 hours for every 3 units. A minimum of 200 hours must be completed within each of two K-12 school levels.

- EDCO 292 - Supervised Experience in Counseling 3-6 *unit(s)* (9 units required)

## Total Units Required (54 units)

Completion of coursework requires a minimum grade of C or higher in courses completed and a minimum overall GPA of 3.0.

### *EDCO 4 - Personal, Academic and Career Exploration*

3 *unit(s)*

This course explores the concepts and applications of personal decision-making. Introduction to life-span development concepts through the use of self-assessment instruments and procedures. Orientation to San Jose State University.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *EDCO 4FY - Personal, Academic and Career Exploration*

3 *unit(s)*

This course explores the concepts and applications of personal decision-making. Introduction to life-span development concepts through the use of self-assessment instruments and procedures. Orientation to San Jose State University.

*Misc/Lab: 2 hours lecture/ 2 hours Lab*

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*EDCO 10 - Adjunct Learning*

*1-2 unit(s)*

Reading/writing/learning skills necessary for comprehension of textbooks and lectures in various disciplines; includes notetaking, exam preparation and library techniques. Not repeatable for graduation credit.

**Grading:** Credit/No Credit

*EDCO 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*EDCO 180 - Individual Studies*

*1-3 unit(s)*

Supervised study in specific fields of counselor education not covered by other courses.

**Prerequisite(s):** Program director consent.

**Grading:** Credit/No Credit

*EDCO 215 - Introduction to Counseling and Guidance*

*3 unit(s)*

Introduction to counseling and guidance research, theories, concepts, and competencies. Provides an overview of the related professional roles and settings.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDCO 218 - Counseling Process & Techniques*

*3 unit(s)*

Foundational course in individual and small group counseling process, skills, and techniques. Examines the characteristics of an effective counselor, the role of the counselor in the counseling process, and fundamental counseling microskills and techniques.

**Grading:** Graded

*EDCO 219 - Practicum in Guidance II*

*3 unit(s)*

Provides for the expansion and extension of the skills with a focus on group systems communication. Media will be used to help students be aware of constructive and destructive elements of interpersonal functioning in group systems. Two intensive training weekends.

**Grading:** Credit/No Credit

*EDCO 221 - Research in Counselor Education*

3 unit(s)

Exploration of research and evaluation in education and counseling. Research procedures, forms of evaluation, and data collection and analysis techniques are examined. Coursework focuses on the conceptualization and development of a research proposal.

**Prerequisite(s):** EDCO 215

**Grading:** Graded

*EDCO 227 - School-Family-Community Collaboration*

3 unit(s)

Exploration of the socio-cultural and psychological dynamics influencing home, school, and community relations. To provide knowledge to collaborate effectively with diverse families, communities, and school personnel to support students' learning, achievement, and psychological well-being.

**Grading:** Graded

*EDCO 232 - Law & Ethics in Counseling*

3 unit(s)

Examination of the professional ethical standards guided by the American School Counselor Association (ASCA) and American Counseling Association (ACA) codes of ethics. To explore local, state and federal laws relating to youth and child welfare, adults, and families.

**Grading:** Graded

*EDCO 244 - Cultural Perspectives in Counseling*

3 unit(s)

Exploring, identifying, and broadening personal perspectives, with an emphasis on culture and diversity in the context of counseling. Raising awareness regarding multicultural diversity and social justice issues.

**Prerequisite(s):** EDCO 215, EDCO 218, EDCO 232, EDCO 248

**Grading:** Graded

*EDCO 248 - Dynamics of Behavior and Development*

3 unit(s)

Study of the dynamics of individual and group behavior over the lifespan. Specific study of selected personality and development theory and practices.

**Grading:** Graded

*EDCO 266 - Education and Career Planning*

3 unit(s)

Study of theory and practice of educational and career planning. Includes sources, uses, evaluation and filing of

educational and career information and procedures for working with both individuals and groups.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDCO 267 - Practicum in Lifespan and Career Development*

*1-3 unit(s)*

Practicum in lifespan development and career planning with emphasis on the development of applied skills in career counseling. May be repeated for credit when an alternate focus is shown in the Schedule of Classes.

**Prerequisite(s):** Core curriculum.

**Grading:** Graded

*EDCO 268 - Lifespan Development*

*3 unit(s)*

Examination of human development across the lifespan, through multiple theoretical and cultural perspectives, with a holistic integration of physical, cognitive, and socio-emotional aspects of development. To deepen knowledge to assist children, adolescents, and adults with life challenges.

**Grading:** Graded

*EDCO 279 - Advanced Group Process Theory and Practice*

*3 unit(s)*

Focus on diverse theoretical approaches in group dynamics, group facilitation/leadership and the group as an instrument of learning within varying institutional settings.

**Prerequisite(s):** Core curriculum and instructor consent.

**Grading:** Graded

*EDCO 280 - Multicultural Counseling*

*3 unit(s)*

Practical application of multicultural counseling theories and techniques. Examine and understand personal cultural perspectives; develop empathy and understanding of various community cultures.

**Prerequisite(s):** EDCO 215, EDCO 218, EDCO 232, EDCO 248, EDCO 266 and EDCO 244

**Grading:** Graded

*EDCO 282 - Assessment for Counselors*

*3 unit(s)*

Exploration of the assessment and diagnostic process, including differential diagnosis and use of diagnostic tools including the current edition of the Diagnostic and Statistical Manual. Discuss development of pathology; applicable for use within educational and counseling agency settings.

**Prerequisite(s):** EDCO 215, EDCO 218, EDCO 232, EDCO 248

**Grading:** Graded

*EDCO 283 - Advanced Educational Assessment*

*3 unit(s)*

Concept and practice in uses of standardized evaluative instruments in school and community. Emphasis on generating curriculum and guidance hypotheses for groups.

**Prerequisite(s):** Core curriculum.

**Grading:** Graded

*EDCO 285 - Trauma Counseling & Crisis Intervention*

*3 unit(s)*

Advanced seminar addressing cognitive, affective, behavioral, physiological, and interpersonal effects of trauma. To learn to assess and respond to crises as well as brief and long-term counseling interventions for individuals and groups in K-12, higher education, and agency settings.

**Prerequisite(s):** EDCO 215, EDCO 218, EDCO 232, EDCO 248, EDCO 266, EDCO 282

**Grading:** Graded

*EDCO 286 - Organizational Change and Development*

*3 unit(s)*

Examination of organizational change within educational and community settings. To develop knowledge and increase skills in using institutional change strategies and innovations in various settings. Concepts and skills are applied through the design and planning of a change intervention.

**Prerequisite(s):** EDCO 215, EDCO 218, EDCO 232, EDCO 248, EDCO 266, and EDCO 282

**Grading:** Graded

*EDCO 287 - Comprehensive School Counseling Analysis*

*3 unit(s)*

Examination of the planning, development, organization, and evaluation of comprehensive K-12 school counseling programs based on national standards. Coursework is designed to increase effective use of data and technology to promote students' academic, career, and personal/social development. Hybrid course format.

**Prerequisite(s):** EDCO 227

**Grading:** Graded

*EDCO 288 - Seminar in Counseling Theory and Practice*

*3 unit(s)*

Assists students in the clarification of philosophical and psychological theory and develops a consistent individual and group counseling theory in relation to a defined lifestyle and the study of practice in school and agency settings.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Core curriculum.

**Corequisite(s):** EDCO 280.



**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDCO 289 - Seminar in Professional Counseling*

3 unit(s)

A culminating seminar which emphasizes a critical review and critique of theory and research in application of human development specialties. May be repeated for credit when an alternate focus is shown in the Schedule of Classes.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*EDCO 292 - Supervised Experience in Counseling*

3-6 unit(s)

Supervised field experience in guidance and counseling. Assignments to public schools or agencies.

**Prerequisite(s):** Core curriculum.

**Grading:** Credit/No Credit

*EDCO 293 - Practicum in Child and Substance Abuse*

3 unit(s)

A practicum in peer group systems and psychodrama counseling intervention for treatment of addiction, physical and sexual abuse, teen pregnancy and other at-risk groups. Required participation in a peer group counseling process.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*EDCO 294 - Practicum in Self-Development*

3 unit(s)

Facilitates training in individual and group counseling methods, including transpersonal journal, psychodrama and peer group techniques.

**Prerequisite(s):** EDCO 218, EDCO 219 and instructor consent.

**Grading:** Graded

*EDCO 298 - Special Studies in Counselor Education*

3 unit(s)

Supervised study for master's degree counselor education candidates with a final course product that satisfies the department and university Plan B requirement.

**Prerequisite(s):** EDCO 215 and EDCO 221

**Grading:** Mandatory CR/NC/RP

*EDCO 299 - Master's Thesis*

3 unit(s)

Supervised thesis in the field of counseling and guidance.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Advanced to candidacy, satisfactory completion of EDCO 221 advisor/designated faculty consent  
**Grading:** Mandatory CR/NC/RP

## Department of Educational Leadership

**Office:** Sweeney Hall 219

**Telephone:** 408-924-3616

**Email:** edleadership@sjsu.edu

**Website:** sjsu.edu/edleadership

### Professors

Arnold Danzig  
Mei-Yan Lu  
Bradley Porfilio

### Associate Professors

Rebeca Burciaga  
María Ledesma

## Overview

If schools are to meet the needs of an increasingly diverse student population, they must be led by women and men passionate about the importance of schooling and capable of managing significant school change. Graduates of the Department of Educational Leadership are trained to rise to that challenge in K-12 settings. We offer a master's degree in educational administration and a preliminary administrative service credential (tier 1) that can be earned simultaneously. The fundamental goal of education, we believe, is the success of all students. To achieve that goal requires informed, courageous leadership.

## Master

### Educational Leadership, Concentration in Emancipatory School Leadership, MA

- Admission Requirements
- Masters Requirements (30 units)
- Program Learning Outcomes

The MA Educational Leadership with a concentration in Emancipatory Leadership for Schools (*pending final approval from the CSU Chancellor's Office*), offered by the Department of Educational Leadership, prepares school leaders through deep engagement with research and practice through applied consulting on living case studies. Emancipatory school leadership approaches create organizational cultures to reflect the diversity of experience and

knowledge within school communities through collaborative approaches to deconstruct power systems, challenge inequitable practices and policies, and cultivate community cultural wealth.

## Program Learning Outcomes (PLOs)

Graduates will be able to:

1. Build organizational cultures that reflect the diversity of experience and knowledge within school communities.
2. Identify approaches to educational leadership that include the cultural wealth present in communities that schools serve.
3. Design professional development that challenges bias and inequity in school settings.
4. Create culturally sustaining approaches to instructional leadership.
5. Implement policies and practices that reflect emancipatory school leadership principles.

## Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Master of Arts degree in Emancipatory Leadership for Schools. See the GAPE Graduate Admissions website and admissions requirements section. Applicants must submit a letter of nomination/recommendation from a school leader as part of their application. Upon review of the applications, all applicant finalists will participate in an interview by the admissions committee to finalize admission to the program. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on GAPE's Graduate Program Test Requirements webpage. For TOEFL requirements, see the admissions requirements section.

## Requirements for Admission to Classified Standing

Applicants may be admitted to classified standing if they meet the admissions requirements for both the Graduate Division and the department. The minimum requirements for the program are a bachelor's degree in any discipline, 3 years of experience working with K-12 schools, and a nomination/recommendation from a school leader. Preference is given to candidates who demonstrate a commitment to emancipatory practices in education.

1. Candidates must meet all university admissions requirements.
2. Department application materials include the items listed below and are to be sent directly to the department office at:

Department of Educational Leadership San José State University  
One Washington Square, SH 404  
San Jose, CA, 95192-0072

1. Autobiographical and Professional Goals Statement (two to three pages, double-spaced) that includes the applicant's:
  1. educational background
  2. experiences demonstrating work with schools
  3. professional goals in pursuing the degree (include areas of interest in leadership)
  4. any additional information explaining interest in the Emancipatory Leadership for Schools master's degree program
2. One nomination/recommendation from a K-12 school leader.

3. Two letters of recommendation from current or former professors and/or employers who can testify to the applicant's ability to successfully pursue an advanced academic degree and/or discuss the applicant's experience within the proposed field of study. Forms for these letters can be found on the Department of Educational Leadership website.
3. Official sealed transcripts from each college/university attended should be sent to:

Graduate Admissions and Program Evaluations San José State University  
One Washington Square, SH 404  
San Jose, CA, 95192-0073

## Master's Requirements (30 units)

### CalAPA Transfer Units or Area Specialization (12 units)

Students who have completed the CalAPA will be able to transfer 12 units of coursework and will take the remaining 18 units.

Students who have **not** completed the CalAPA will take graduate level courses as a specialization in an area of interest that is related to educational leadership (e.g. Literacy - Instructional Leadership).

### Year 1 (12 units)

#### Summer (6 units)

- EDAD 201 - Epistemologies of Educational Leadership: Personal, Political, & Intellectual 3 *unit(s)*
- EDAD 202 - Emancipatory Teaching and Learning 3 *unit(s)*

#### Fall (3 units)

- EDAD 205 - Equity & Access: Practices, Policies, & Pedagogies 3 *unit(s)*

#### Spring (3 units)

- EDAD 206 - Emancipatory Leadership as Praxis Seminar 3 *unit(s)*

### Year 2 (6 units)

#### Summer (6 units)

- EDAD 204 - Critical Studies of Educational Policy 3 *unit(s)*
- EDAD 253 - Envisioning Emancipatory Leadership for Schools 3 *unit(s)* (3-Year Action Plan)

## Culminating Experiences

### 1. Applied Consulting Project

## Living Case Study on School Leadership

Upon identifying a school leadership challenge that a local school or district is struggling with (living case study), students work as a cohort to research the problem, explore possible solutions, and work closely with the school or district to address the challenge with emancipatory leadership solutions.

## 2. Emancipatory Leadership as Praxis Statement

## 3-Year Action Plan

Students prepare an individualized 3-year leadership action plan that outlines their core values, a personal vision statement, current and lacking leadership skills and actionable goals to practice areas of growth.

## Total Units Required (30 units)

### *EDAD 200 - The School Manager*

3 unit(s)

Management skills for leading effective school organizations. Present and emerging issues in our society and how they relate to schooling. Governance of education.

**Prerequisite(s):** Admission to Graduate Division.

**Grading:** Graded

### *EDAD 201 - Epistemologies of Educational Leadership: Personal, Political, & Intellectual*

3 unit(s)

Introduction to the personal, political, and intellectual dimensions that inform one's epistemology of educational leadership. Students engage with research on practices in the field of Educational Leadership alongside an autoethnographic exploration of how their experiences influence their approaches to leadership and identify areas of growth.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Admission to the Graduate Division.

**Grading:** Graded

**Note(s):** Course satisfies Graduation Writing Assessment Requirement (GWAR).

### *EDAD 202 - Emancipatory Teaching and Learning*

3 unit(s)

Close study of instructional leadership and the ways school leaders have supported critical pedagogies including ethnic studies to highlight best practices that have resulted in increased student and community engagement.

*Repeatable for credit.*

**Prerequisite(s):** EDAD 201 and admission to the SJSU Graduate Division.

**Grading:** Graded

*EDAD 203 - The School Human Resources Administrator*

3 unit(s)

Certificated staff supervision and staff development. Organization development, staff motivation and personnel management functions at the district level.

**Prerequisite(s):** Admission to Graduate Division.

**Grading:** Graded

*EDAD 204 - Critical Studies of Educational Policy*

3 unit(s)

A close study of historical and current educational policies. Interactions with local, statewide, and national advocates who have worked on writing and advocating for educational policies for social change.

**Prerequisite(s):** EDAD 206.

**Grading:** Graded

*EDAD 205 - Equity & Access: Practices, Policies, & Pedagogies*

3 unit(s)

Engagement with common problems of practice in school communities to improve equity and access challenges for historically underserved students. Development of collaborative approaches to emancipatory leadership practices, policies, and pedagogies with local teacher leaders and school leaders. Students work closely with the course instructor and the Lurie College Leadership Fellow.

**Prerequisite(s):** EDAD 202 and admission to the Graduate Division.

**Grading:** Graded

*EDAD 206 - Emancipatory Leadership as Praxis Seminar*

3 unit(s)

Intensive experiential learning through applied consulting on living case studies aimed to challenge inequitable policies and practices to improve students' opportunities to learn. Students work closely with the selected site or situation, as well as with their faculty member and the Lurie College Leadership Fellow.

**Prerequisite(s):** EDAD 205.

**Grading:** Graded

**Note(s):** Applied Culminating Experience.

*EDAD 221A - Research Seminar Ed Leadership*

3 unit(s)

To provide an overview of the theory, procedures, application, and use of research in educational settings. To deepen your understanding of the ways that educational research can be brought to bear on the challenges of practice.

**Grading:** Graded

*EDAD 221B - Research Seminar Ed Leadership: Methods*

3 unit(s)

To provide an overview of theory, procedures, application, and research in educational settings. To assist in the study of a specific area of applied research from the current professional literature and in the development of a specific research proposal.

**Prerequisite(s):** EDAD 221A

**Grading:** Graded

*EDAD 221C - Research Ed Leadership:Data Collection*

3 unit(s)

To provide an overview of and support during data collection, data organization, and preliminary analyses of findings. To assist in the study of a specific area of applied research from the current professional literature to carry out a specific research project.

**Prerequisite(s):** EDAD 221A and EDAD 221B

**Grading:** Graded

*EDAD 242A - Fieldwork:Effective Leadership*

3 unit(s)

This fieldwork course focuses on dispositions of effective educational leadership and provides for the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

**Prerequisite(s):** Program director consent.

**Grading:** Credit/No Credit

*EDAD 242B - Fieldwork: Instructional Leadership*

6 unit(s)

This fieldwork course focuses on dispositions of effective instructional leadership and provides for the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

**Prerequisite(s):** EDAD 242A

**Grading:** Credit/No Credit

*EDAD 242C - Fieldwork: Assessing Resources*

6 unit(s)

This fieldwork course focuses on the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management. Leadership skills will be developed for the management of school change initiatives.

**Prerequisite(s):** EDAD 242A and EDAD 242B

**Grading:** Credit/No Credit

*EDAD 242D - Fieldwork: Advocacy*

6 unit(s)

This fieldwork course focuses on dispositions of critical leadership while advocating for all students and provides for

the application of administrative skills in various educational settings in instructional leadership, school management, personnel management, and business management.

**Prerequisite(s):** EDAD 242A, EDAD 242B, and EDAD 242C

**Grading:** Credit/No Credit

*EDAD 253 - Envisioning Emancipatory Leadership for Schools*

3 unit(s)

Capstone course to synthesize personal and intellectual areas of growth. Students complete a 3-year action plan, outlining their core values, write a personal vision statement, cite current and lacking leadership skills and develop actionable goals to practice areas of growth.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Concurrent Enrollment in or Completion of EDAD 204.

**Grading:** Graded

## Department of Special Education

**Office:** Sweeney Hall 204 (Department of Special Education)

**Telephone:** 408-924-3700 (Voice); 408-924-3701 (Fax)

**Email:** [speceduc-group@sjsu.edu](mailto:speceduc-group@sjsu.edu)

**Website:** [www.sjsu.edu/specialed](http://www.sjsu.edu/specialed)

### Professors

Peg Hughes, Chair and ECSE Coordinator  
Hyun-Sook Park

### Assistant Professors

Andrea Golloher  
Saili Kulkarni  
Matthew Love  
Lisa Simpson, Intern Coordinator

## Overview

Graduates of the Department of Special Education are advocates for children. Our programs provide the knowledge and expertise necessary to teach students and young children with disabilities, to serve as change agents, and to help make lives the very best they can be. Our alumni are passionate about learning and education. We offer preparation for the Preliminary Education Specialist Teaching Credential in three areas (mild to moderate disabilities, moderate to severe disabilities, and early childhood special education) that can be completed as an Intern (or first year teacher) or as a traditional student. The Concurrent Option is the opportunity to earn the Education Specialist Mild to Moderate Disabilities Credential and the Multiple Subjects and/or Single Subjects Credential at the same time. We also have programs for the Added Authorizations in Early Childhood Special Education and Autism Spectrum Disorders, as well as the Certificate in Theory, Knowledge and Practice about Autism Spectrum Disorders. We offer a Master's of Arts degree with a Special Education specialization.



The California Commission on Teacher Credentialing (CCTC) and the National Council on the Accreditation of Teacher Education Colleges (NCATE) accredit all teaching credential programs. CCTC identifies and defines the standards that all teachers must satisfy for the credential; students in the Department of Special Education programs meet these standards with completion of the program and then are recommended to CCTC for the Education Specialist credential.

**Credential Programs Admission Requirements:**

1. Application for admission to SJSU.
2. Application and required documents for admission to the Department of Special Education.
3. Graduation from an accredited university or college.
4. Passing scores on the California Basic Education Skills Test (CBEST).
5. Grade Point Average (GPA) of at least 2.75.
6. Completion of pre-professional experience.
7. Passing scores on the California Subject Examination for Teachers (CSET).
8. Department interview with passing results.
9. Completion of 165 pre-service coursework hours for Interns.
10. U.S. Constitution requirement for Interns.
11. It is recommended that any individual interested in applying for a program attend an orientation meeting and visit the website at [www.sjsu.edu/specialed](http://www.sjsu.edu/specialed).

**MA Program Admission Requirements:**

1. Application for admission to SJSU.
2. Application and required documents for admission to the Department of Special Education.
3. Graduation from an accredited university or college.
4. Grade Point Average (GPA) of 3.0.
5. Department interview with passing results.
6. A passing score on the Department of Special Education writing assessment.
7. Statistics Class

## Master

### Education, Special Education Concentration, MA

**Advisors: Dr. Peg Hughes, Dr. Hyun-Sook Park, Dr. Angela Rickford, Dr. Lisa Simpson, and Dr. Andrea Golloher**

The MA in Education with a Concentration in Special Education, offered by the Department of Special Education, is a 30-unit program designed to prepare students for leadership roles in Special Education through coursework in one of three areas of specialization: early childhood special education; mild/moderate or moderate/severe disabilities; or a combination of areas of interest. Students interested in the MA and a teaching credential must apply for both options. Please note that prospective teachers with the MA must also complete a credential program in an area of interest to work in public schools in the State of California. For more information see [www.sjsu.edu/specialed](http://www.sjsu.edu/specialed).

## Admission Requirements

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA program. Applicants who meet the following requirements will be considered for admission in classified standing into the MA in Education with a Concentration in Special Education:

- Bachelor's Degree or equivalent and a cumulative GPA of 3.0 or better.

- Passing score on the Department of Special Education writing assessment or GRE Analytical Writing (passing score of 4.0 score or better).
- Certificate of Clearance.
- STAT 95 - Elementary Statistics or equivalent basic statistics course with a grade of 3.0 or better.
- A teaching credential in special education is recommended.

In addition to the same requirements mentioned above, applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Admission to Candidacy

To be admitted to candidacy for the Master of Arts degree, a student must first meet the university requirements for the degree as stated in the Advancement to Candidacy section. Candidates must also have:

- At least a 3.0 ("B") average in nine semester hours of approved San José State University courses.
- Approval of a formal master's degree program from the departmental graduate advisor and from the Graduate Committee.
- Successfully completed the graduate English Writing Requirement. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan B (Project)

Students will complete a research project that involves the identification of a research problem, data collection, analysis, and discussion. The written requirement includes five chapters similar to the thesis format and a poster presentation to meet the oral requirement.

### Masters Requirements (30 units)

*A statistics course is required as part of this masters program.*

### Core Courses (12 units)

- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)* (*Students may also take EDSE 218B or EDSE 218C*)
- EDSE 231 - Issues and Research in Special Education 3 *unit(s)*
- EDSE 231X - Educational Research: Design and Implementation 3 *unit(s)*
- EDSE 285 - Seminar on Issues Related to Teaching Exceptional Individuals 3 *unit(s)* (*GWAR*)

## Electives (15 units)

Electives to be chosen with the approval of the advisor.

## Culminating Experience (3 units)

### Plan B- Project

- EDSE 220 - Research Seminar on Exceptional Individuals 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

The maximum number of graduate units (with a grade of "B" or better) that can transferred from approved accredited universities is 9. Continuing education and extended studies units are not accepted for transfer.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Theory, Knowledge and Practice about Autism Spectrum Disorders Certificate (Graduate)

Department consent.

## Certificate Requirements (9 units)

### Specialized Coursework (9 units)

- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)*
- EDSE 218B - ASD: Mild to Moderate Disabilities 3 *unit(s)*
- EDSE 218C - ASD: Collaboration and Implementation of Best Practices 3 *unit(s)*

## Total Units Required (9 units)

## Minor

### Deaf Education Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (12 units)

- EDSE 14A - American Sign Language I 3 *unit(s)*
- EDSE 14B - American Sign Language II 3 *unit(s)*
- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 115 - Introduction to Deaf Culture 3 *unit(s)*

#### Total Units Required (12 units)

### Special Education Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (12 units)

##### Complete One Track From:

##### Track 1- Mild/Moderate Disabilities

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 192A - Including and Supporting Students 3 *unit(s)*
- EDSE 216A - Teaching Reading and Language Arts 3 *unit(s)*
- EDSE 241 - Emerging Technology for All Learners 3 *unit(s)*

##### Track 2- Moderate/Severe Disabilities

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 110 - Autism Spectrum Disorders 3 *unit(s)*
- EDSE 192A - Including and Supporting Students 3 *unit(s)*
- EDSE 216A - Teaching Reading and Language Arts 3 *unit(s)*

##### Track 3- Early Childhood Special Education

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 104 - Atypical Development in Young Children 3 *unit(s)*
- EDSE 108 - Assessment and Evaluation: Atypical Young Children 3 *unit(s)*
- EDSE 110 - Autism Spectrum Disorders 3 *unit(s)*

Total Units Required (12 units)

## Credential

### Education Specialist Preliminary Teaching Credential: Early Childhood Special Education Credential

#### Education Specialist Preliminary Teaching Credential

Credential Requirements (33 units)

Core Courses (9 units)

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 228A - Topics in Collaboration and Transition 3 *unit(s)*
- EDSE 279 - Managing Behavior and Emotional Problems of Students in Special Education 3 *unit(s)*

Specialization (24 units)

- EDSE 104 - Atypical Development in Young Children 3 *unit(s)*
- EDSE 108 - Assessment and Evaluation: Atypical Young Children 3 *unit(s)*
- EDSE 154 - Practicum and Student Teaching in Special Education 6 *unit(s)*
- EDSE 214A - Augmentative and Alternative Comm Strat 3 *unit(s)*
- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)*
- EDSE 221 - Intervention for Young Children with Disabilities and Delays 3 *unit(s)*
- EDSE 235A - Movement, Mobility, Sensory and Health 3 *unit(s)*

Internship Option (21 units)

- EDSE 105 - Supervision Induction Plan Evaluation 6 *unit(s)* (*Students will take 105 for three semesters.*)
- EDSE 224 - Methodologies for Second Language Learners in Special Education Programs 1-3 *unit(s)* (3 *units required*)

Total Units Required (33 units)

## Education Specialist: Mild/Moderate Disabilities Credential

### **Preliminary Credential Program**

#### **Required Upper Division Coursework (6 Units)**

- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 units required)
- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)

#### **Credential Requirements (39 units)**

##### **Core Courses (15 units)**

- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDSE 218B - ASD: Mild to Moderate Disabilities 3 *unit(s)*
- EDSE 224 - Methodologies for Second Language Learners in Special Education Programs 1-3 *unit(s)*
- EDSE 241 - Emerging Technology for All Learners 3 *unit(s)*
- EDSE 279 - Managing Behavior and Emotional Problems of Students in Special Education 3 *unit(s)*

##### **Specialized Coursework (18 units)**

- EDSE 215 - Assessment And Evaluation of Individuals with Mild/Moderate Disabilities 3 *unit(s)*
- EDSE 216A - Teaching Reading and Language Arts 3 *unit(s)*
- EDSE 217A - Directed Teaching I 6 *unit(s)* (Plus 50 hours of fieldwork in a general education setting)
- EDSE 228A - Topics in Collaboration and Transition 3 *unit(s)*
- EDSE 230A - Curriculum and Instruction M/M 3 *unit(s)*

##### **Internship Option (18 units)**

- EDSE 105 - Supervision Induction Plan Evaluation 6 *unit(s)* (Students will take 105 for three semesters)

#### **Total Units Required (39-57 units)**

## **Education Specialist: Moderate/Severe Disabilities Credential**

### **Preliminary Credential Program**

#### **Required Lower Division Coursework (3 units)**

- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 units required)
- 50 hours of field work in general education setting

#### **Credential Requirements (36-44 units)**

## Core Courses (15 units)

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 *unit(s)* (S)
- EDSE 192A - Including and Supporting Students 3 *unit(s)*
- EDSE 216A - Teaching Reading and Language Arts 3 *unit(s)*
- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)*
- EDSE 279 - Managing Behavior and Emotional Problems of Students in Special Education 3 *unit(s)*

## Specialized Coursework (18 units)

- EDSE 154 - Practicum and Student Teaching in Special Education 6 *unit(s)*
- EDSE 206A - Assessment Strategies for M/S 3 *unit(s)*
- EDSE 213A - Curriculum, Instruction and Transition 3 *unit(s)*
- EDSE 214A - Augmentative and Alternative Comm Strat 3 *unit(s)*
- EDSE 235A - Movement, Mobility, Sensory and Health 3 *unit(s)*

## Internship Option (21 units)

- EDSE 105 - Supervision Induction Plan Evaluation 6 *unit(s)* (*Students will take 105 for three semesters*)
- EDSE 224 - Methodologies for Second Language Learners in Special Education Programs 1-3 *unit(s)* (3 *units required*)

## Total Units Required (36-47 units)

## Added Authorization

### Early Childhood Special Education Added Authorization

*The Added Authorization in Early Childhood Special Education is available to individuals who hold a Clear Education Specialist Credential. Completion of this authorization extends special education teaching authorization to students with disabilities between the ages of birth and pre-Kinder.*

## Credential Requirements (24 units)

### Specialized Courses (24 units)

- EDSE 104 - Atypical Development in Young Children 3 *unit(s)*
- EDSE 108 - Assessment and Evaluation: Atypical Young Children 3 *unit(s)*
- EDSE 154 - Practicum and Student Teaching in Special Education 6 *unit(s)*
- EDSE 214A - Augmentative and Alternative Comm Strat 3 *unit(s)*
- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)*
- EDSE 221 - Intervention for Young Children with Disabilities and Delays 3 *unit(s)*
- EDSE 235A - Movement, Mobility, Sensory and Health 3 *unit(s)*

Total Units Required (24 units)

## Special Education - Autism Spectrum Disorders Added Authorization

### Prerequisite

Level II or Clear Education Specialist Credential K-12, please see CCTC website

### Authorization Requirements (9 units)

- EDSE 218A - ASD: Moderate to Severe Disabilities 3 *unit(s)*
- EDSE 218B - ASD: Mild to Moderate Disabilities 3 *unit(s)*
- EDSE 218C - ASD: Collaboration and Implementation of Best Practices 3 *unit(s)*

### Total Units Required (9 units)

#### *EDSE 14A - American Sign Language I*

3 *unit(s)*

Introductory course covering basic vocabulary and grammatical structures, appropriate cultural and linguistic behaviors within the deaf community and basic information about the deaf community.

**Grading:** Graded

#### *EDSE 14B - American Sign Language II*

3 *unit(s)*

Continuation of EDSE 14A. Covers additional basic vocabulary and grammatical structures, cultural and linguistic behaviors within the deaf community and information about the deaf community.

**Prerequisite(s):** EDSE 14A or instructor consent.

**Grading:** Graded

#### *EDSE 102 - Speech, Language & Typical, Atypical Dev*

3 *unit(s)*

Developmental levels of speech, language, and communicative competence. Dialectal variations. Second language acquisition. Communication disorders. Language assessment and development.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Upper Division Standing or Instructor Consent

**Grading:** Graded

#### *EDSE 104 - Atypical Development in Young Children*



3 unit(s)

Historical and philosophical background of intervention theories of learning related to young children with high risk development. Skills and techniques to promote optimal environments and appropriate methods for early intervention and stimulation of young children with special needs.

**Prerequisite(s):** CD 60 (or equivalent).

**Grading:** Graded

*EDSE 105 - Supervision Induction Plan Evaluation*

6 unit(s)

Supervised observation, support and feedback for new special education teachers and evaluation of the induction plan.

*Course may be repeated for credit for up to 24 units.*

**Prerequisite(s):** Department consent.

**Grading:** Credit/No Credit

*EDSE 105X - Intern Support Seminar*

1 unit(s)

Discussion about challenging aspects of Interns' jobs and a focus on problem solving. Collaboration and effective practices for collaborative group work is addressed. Interns learn to collaboratively interact with others, and to provide support to each other.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Enrollment in the Collaborative Intern Program and teaching with an Intern Credential.

**Grading:** Credit/No Credit

*EDSE 108 - Assessment and Evaluation: Atypical Young Children*

3 unit(s)

Identification, description and assessment of atypical children ages birth through 8 years. Introduction to early intervention and collaboration.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 110 - Autism Spectrum Disorders*

3 unit(s)

EDSE 110 provides an overview to autism spectrum disorders and examines theoretical foundations and applications of evidence-based best practices (EBPs) for students on the Autism Spectrum.

**Prerequisite(s):** Special Education Minor

**Grading:** Graded

*EDSE 115 - Introduction to Deaf Culture*

3 unit(s)

This course is an introduction to the American Deaf Culture and provides a comprehensive analysis of how Deaf people are understood from a cultural perspective. The identities, contributions and experiences of Deaf people are explored in educational and linguistic context.

**Prerequisite(s):** EDSE 14A or EDSE 102

**Grading:** Graded

*EDSE 124 - Methodologies for Eng Learners w/out Dis*

3 unit(s)

Examines unique considerations and approaches to working with culturally and linguistically diverse students with special needs. Discussion and application course, emphasizing teaching and learning of language skills and content to English Learners (EL's) with and without disabilities. Focus on legislation requirements, strategies to deliver sheltered instruction, materials, and resources. Candidates become proficient in using the Sheltered Instruction Observation Protocol for English Language Learners.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Upper Division Standing.

**Grading:** Graded

*EDSE 154 - Practicum and Student Teaching in Special Education*

6 unit(s)

Field-based course to measure competency in a special education setting.

**Prerequisite(s):** Department consent.

**Grading:** Credit/No Credit

*EDSE 180 - Individual Studies*

1-4 unit(s)

Supervised study of a specific problem or topic.

**Prerequisite(s):** Upper division standing and instructor consent.

**Grading:** Credit/No Credit

*EDSE 192A - Including and Supporting Students*

3 unit(s)

Preparation for teaching students with disabilities in general education; provides intervention strategies prior to referral for special education with policies and procedures regarding placement of and services for students with disabilities, either in special education or within an inclusive classroom.

**Prerequisite(s):** Department consent

**Grading:** Graded

*EDSE 206A - Assessment Strategies for M/S*

3 unit(s)

Strategies for comprehensive assessment of students from diverse backgrounds and with a variety of language and

cognitive skills for the purpose of making instructional decisions. Required field experiences and an emphasis on developing effective communication practices and collaborative partnerships.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 209 - Educating Students with Emotional Disorders*

*3 unit(s)*

Identification of students with emotional disorders, effective models of instruction, educational theories, teaching strategies and positive behavior support.

**Prerequisite(s):** Department consent.

**Corequisite(s):** EDSE 105 or instructor consent.

**Grading:** Graded

*EDSE 213A - Curriculum, Instruction and Transition*

*3 unit(s)*

Exploration of instructional practices and current issues for students with moderate-severe disabilities and English Learners with moderate-severe disabilities. Curriculum design aligned with content standards that promote life skills and successful student transition into school and community settings.

**Prerequisite(s):** EDSE 206A and department consent.

**Grading:** Graded

*EDSE 214A - Augmentative and Alternative Comm Strat*

*3 unit(s)*

The use of augmentative and alternative communication (AAC) devices and strategies for assessing and instructing individuals with complex communication needs in home, school, and community settings, and computer-based technology to facilitate the teaching and learning process.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 215 - Assessment And Evaluation of Individuals with Mild/Moderate Disabilities*

*3 unit(s)*

Formal and non-formal evaluation methods to assess students with mild/moderate disabilities for first and second language learners. Includes standardized and alternative assessment, tools and practices, case studies, report development, and a comprehensive understanding of related research.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 216A - Teaching Reading and Language Arts*

*3 unit(s)*

Emphasis on socio-cultural propensities of diverse groups and theories of culturally relevant pedagogy and a model of teaching reading and writing that is based in scientific research.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 217A - Directed Teaching I*

6 unit(s)

Supervised teaching experience in educational settings for students with mild to moderate disabilities. Concurrent seminar.

**Prerequisite(s):** Department consent.

**Grading:** Credit/No Credit

*EDSE 217B - Directed Teaching II*

6 unit(s)

Supervised teaching experience in educational settings for students with mild to moderate disabilities. Concurrent seminar.

**Prerequisite(s):** Completion of prescribed credential program including EDSE 217A and departmental consent.

**Grading:** Credit/No Credit

*EDSE 217D - Advanced Directed Teaching*

3 unit(s)

Supervised teaching experience in educational settings for students with disabilities.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Departmental consent.

**Grading:** Credit/No Credit

*EDSE 218A - ASD: Moderate to Severe Disabilities*

3 unit(s)

Theoretical foundations and application of evidence-based best practices for students with ASD and M/S disabilities including social language interventions, social stories, integrated playgroups, positive behavior support, self-advocacy skills inclusive education, recreation and leisure, and special interventions for young children.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 218B - ASD: Mild to Moderate Disabilities*

3 unit(s)

Theoretical foundations and application of evidence-based best practices for students with ASD and M/M disabilities including social language interventions, social stories, integrated playgroups, positive behavior support, self-advocacy skills, inclusive education, recreation and leisure, and special interventions for young children.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 218C - ASD: Collaboration and Implementation of Best Practices*

3 unit(s)

Focus on collaboration and understanding roles of service providers for students with autism spectrum disorders. Team work and strategies for working with educational professionals and parents or significant others in the life of the students with autism spectrum disorders.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 220 - Research Seminar on Exceptional Individuals*

3 unit(s)

Applied research or projects in the field of special education.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 221 - Intervention for Young Children with Disabilities and Delays*

3 unit(s)

Intervention strategies for young children with special needs; theory and design of content; linkage between assessment, intervention and evaluation; inclusion of motor, adaptive, cognitive communication and social skills development; attention to multicultural/linguistic considerations. When content changes may be repeated.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 224 - Methodologies for Second Language Learners in Special Education Programs*

1-3 unit(s)

Examines the unique considerations, legislation, and approaches to working with culturally and linguistically diverse students with special education needs.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 228A - Topics in Collaboration and Transition*

3 unit(s)

Strategies for effective communication and collaboration practices with members of the various teams that plan and serve students receiving special education services. Emphasis in planning transitional life experiences across the lifespan.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 230A - Curriculum and Instruction M/M*

3 unit(s)

Focus on special education alignment with content standards, integrated curriculum design, information literacy, evidence-based practices for differentiated classroom instruction, multiple intelligences and modeling and integrating habits of mind.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 231 - Issues and Research in Special Education*

3 unit(s)

Evaluation of research on characteristics and methods of identification of individuals with disabilities; including minority and underachieving students. Current funding issues, research models, research on individuals with disabilities and instructional organization are reviewed and analyzed.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 231X - Educational Research: Design and Implementation*

3 unit(s)

EDSE 231X is a continuation of the process for the development of educational research, implementation of the study, and writing for the Masters of Arts project or thesis started in EDSE 231.

**Prerequisite(s):** EDSE 231 and EDSE 285.

**Grading:** Graded

*EDSE 234 - Advanced Fieldwork in Special Education*

6 unit(s)

Application of knowledge and skills in classrooms. Examination of ethical practices, work with parents, challenges in application, and professional growth.

**Prerequisite(s):** Department consent.

**Grading:** Credit/No Credit

*EDSE 235A - Movement, Mobility, Sensory and Health*

3 unit(s)

Identifies the special services available to students with moderate/severe disabilities and defines the implementation of these services in the school and community. The course will define the role, function and services provided by professionals available to meet the health care and educational needs of students with multiple disabilities. The course will also address appropriate assessment and referral practices for teachers, seizures protocols, basic first aid and universal precautions, medication administration, positioning and handling for students with severe disabilities and feeding techniques.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 241 - Emerging Technology for All Learners*

3 unit(s)

Effective use of the computer to meet exceptional learning needs, including special education software evaluation, word processing for written language development, logo, individualized lessons with graphics and speech and database management for cognitive and language development.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 279 - Managing Behavior and Emotional Problems of Students in Special Education*

3 unit(s)

Introduction to the application of various management approaches to individual and group instruction of exceptional individuals.

**Prerequisite(s):** Department consent.

**Grading:** Graded

*EDSE 281 - Student Teaching with Deaf and Hard of Hearing Students*

6 unit(s)

Classroom teaching with hearing impaired students in an educational setting under supervision of the instructor.

**Prerequisite(s):** Department consent.

**Grading:** Credit/No Credit

*EDSE 285 - Seminar on Issues Related to Teaching Exceptional Individuals*

3 unit(s)

Issues, trends and research in educating handicapped students.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Department consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDSE 298 - Special Studies*

1-3 unit(s)

Supervised study in a specific field of special education; to be taken only with the consent of the division head.

**Prerequisite(s):** Department consent.

**Grading:** Mandatory CR/NC/RP

*EDSE 299 - Master's Thesis*

3 unit(s)

Supervised thesis in the field of special education, to be taken only with chair consent.

**Prerequisite(s):** Department consent.

**Grading:** Mandatory CR/NC/RP

## Department of Teacher Education

**Office:** Sweeney Hall 305

**Telephone:** 408-924-3771

**Email:** [elemed-group@sjsu.edu](mailto:elemed-group@sjsu.edu)

**Website:** [www.sjsu.edu/teachered/](http://www.sjsu.edu/teachered/)

### **Professors**

Katya Aguilar  
Elaine Chin  
Mark K. Felton  
Colette Rabin  
Grinell Smith  
Patricia Swanson, Chair  
David Whitenack

### **Associate Professors**

Brent Duckor  
Roxana Marachi

### **Assistant Professors**

Allison Briceno  
Eduardo Muñoz-Muñoz  
Lara Kassab  
Luis Poza  
Tammie Visintainer

## **Overview**

The Teacher Education Program at San Jose State University is California's oldest public teacher preparatory program. We are committed to preparing the highest quality educators (PreK-12), with knowledge, skills, dispositions, and ethics to teach students in our culturally diverse and technologically complex global communities. Teaching is a reliable and rewarding profession for those desiring to influence the lives of children and adolescents.

The Teacher Education Department offers a California multiple (grades PK-8) or single subject (grades 9-12) teaching credential offered by the State of California to teach pre-school, elementary, middle, and high school students in a California public school. These programs are post baccalaureate, offered at the graduate level, and are approved by the CCTC (California Commission on Teacher Credentialing). The Teacher Education Department offers many options, including a Teaching Credential only (in multiple or single subject), a Teaching Credential plus a Master of Arts Degree (in Elementary: Curriculum & Instruction) or a Master of Arts Degree (LACES) only (also in Elementary: Curriculum & Instruction).

Click the link to expand Admissions Requirements information.

Undergraduate students intending to enter a teaching credential program, should view the Teacher Preparation section of the catalog for more information.

## **Master**



## Education, Curriculum and Instruction (LACES) Concentration, MA

The MA in Education, concentration in Curriculum and Instruction (LACES) is offered by the Department of Teacher Education.

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (30 units)

#### Core Courses (27 units)

- EDTE 210 - Becoming a Reader at Any Age 3 *unit(s)*
- EDTE 211 - Developing Academic Language for Reading Across the Curriculum 3 *unit(s)*
- EDTE 212 - Leadership, Politics and Literacy Program Evaluation 3 *unit(s)*
- EDTE 214 - Learning in a High Tech Environment 3 *unit(s)*
- EDTE 216 - Ongoing Assessment in Your Classroom 3 *unit(s)*
- EDTE 217A - Reading Practicum I 3 *unit(s)*
- EDTE 217B - Reading Practicum 2 3 *unit(s)*
- EDTE 290C - Research on Literacy Across the Curriculum for an Equitable Society 3 *unit(s)* (GWAR)
- EDTE 292 - Writing Across Cultures and the Curriculum 3 *unit(s)* (GWAR)

#### Culminating Experience (3 units)

- MA Presentation at MA Colloquium

#### Complete One Option (Plan A or Plan B):

##### Plan A (Thesis)

- EDTE 299 - Master's Thesis 1-6 *unit(s)*

##### Plan B (Project)

- EDTE 298 - Special Studies in Education 1-6 *unit(s)*

## Total Units Required (30 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Education, Curriculum and Instruction with Multiple Subject Credential Concentration, MA

The MA in Education, concentration in Curriculum and instruction with Multiple Credential program is offered by the Department of Teacher Education.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Masters Requirements (47 units)

### Core Courses (44 units)

- EDEL 108A - Curriculum: Reading/Language Arts 2-6 *unit(s)* (3 units required)
- EDEL 108B - Curriculum: Science 1-3 *unit(s)* (3 units required)
- EDEL 108C - Curriculum: Social Studies 1-3 *unit(s)* (3 units required)
- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 units required)
- EDEL 143A - Beginning Student-Teaching (Phase I) 1-6 *unit(s)* (4 units required)
- EDEL 143B - Advanced Student-Teaching (Phase II) 1-10 *unit(s)* (10 units required)
- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDTE 208 - Educational Sociology 3 *unit(s)* (GWAR)
- EDTE 224 - Seminar in Educational Psychology 3 *unit(s)*
- EDTE 250 - Qualitative Research in Education 3 *unit(s)*
- EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy 3 *unit(s)*
- EDTE 262 - Classroom Issues in the Language/Literacy Development of L2 Learners 3 *unit(s)*

### Culminating Experience (3 units)

- MA Presentation at MA Colloquium

### Complete One Option (Plan A or Plan B):

#### Plan A (Thesis)

- EDTE 299 - Master's Thesis 1-6 *unit(s)*

#### Plan B (Project)

- EDTE 298 - Special Studies in Education 1-6 *unit(s)*

## Total Units Required (47 units)

Upon completion of the credential requirements, students must have achieved a SJSU cumulative grade point average of 3.0 in order to be recommended for a credential.

## Minor

### Education Minor

The minor in Education is available to students who are interested in education from a variety of perspectives. Students in a degree program who may want to work with children in capacities inside or outside the classroom may be interested in this minor. For example, students interested in the following career paths could benefit from this course of study: becoming a teacher, working in the non-profit sector (e.g., educational foundations) or in any type of child advocacy work such as law or social work; or anyone working in a diverse environment where understanding how individuals learn and process information could benefit. Successful completion of the minor will enable students to earn 12 credits toward their multiple subject teaching credential.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (12 units)

- EDEL 102 - Psychological Foundations of Education 3 *unit(s)*
- EDEL 103 - Social-Multicultural Foundations of Education 3 *unit(s)*
- EDTE 162 - Meeting the Needs of Second Language Learners 3 *unit(s)*
- EDTE 190 - Health Education for the Classroom Teacher 3 *unit(s)*

## Total Units Required (12 units)

## Credential

### Multiple Subject Credential

#### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see <http://info.sjsu.edu/gcw.html>.

## Multiple Subject Credential Requirements (41 units)

### Core Courses

- EDEL 108A - Curriculum: Reading/Language Arts 2-6 *unit(s)* (3 units required)
- EDEL 108B - Curriculum: Science 1-3 *unit(s)* (3 units required)
- EDEL 108C - Curriculum: Social Studies 1-3 *unit(s)* (3 units required)
- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 units required)
- EDEL 143A - Beginning Student-Teaching (Phase I) 1-6 *unit(s)* (4 units required)
- EDEL 143B - Advanced Student-Teaching (Phase II) 1-10 *unit(s)* (Students will take up to 10 units of EDEL 143B)
- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDTE 208 - Educational Sociology 3 *unit(s)* (GWAR)
- EDTE 224 - Seminar in Educational Psychology 3 *unit(s)*
- EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy 3 *unit(s)*
- EDTE 262 - Classroom Issues in the Language/Literacy Development of L2 Learners 3 *unit(s)*

## Total Units Required (41 units)

Upon completion of the credential requirements, students must have achieved a SJSU cumulative grade point average of 3.0 in order to be recommended for a credential.

## Single Subject Credential

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see <http://info.sjsu.edu/gcw.html>.

## Core Courses (35-39 units)

- EDSC 182 - Assessment and Evaluation 3 *unit(s)*
- EDSC 184X - Student Teaching I 2-6 *unit(s)* (6 units required)
- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDTE 208 - Educational Sociology 3 *unit(s)*
- EDTE 224 - Seminar in Educational Psychology 3 *unit(s)*
- EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy 3 *unit(s)*
- EDTE 262 - Classroom Issues in the Language/Literacy Development of L2 Learners 3 *unit(s)*

## Methods (3-4 units)

Complete one of the methods course listed below:

- ARED 238 - Principles of Art Education 3 *unit(s)*
- ENED 353 - Methods of Teaching English 4 *unit(s)*
- FLED 380 - Teaching Foreign Languages 3 *unit(s)*
- KNED 339 - Instructional Materials and Procedures in Physical Education 3 *unit(s)*
- MTED 394 - Secondary School Mathematics 3 *unit(s)*
- MUED 370A - Methodology for Music Educators: Elementary K-8 2 *unit(s)*
- MUED 370B - Methodology for Music Educators: Secondary 2 *unit(s)*
- SCED 273 - Secondary School Science 3 *unit(s)*

- SSED 378 - Social Science Methods 3 *unit(s)*

## Student Teaching Phase II (4 units)

Complete one of the student teaching phase II courses listed below:

- ARED 184Y - Student Teaching II - Classroom Teaching 4-6 *unit(s)* (4 units required)
- ENED 184Y - Student Teaching II - Classroom Teaching 4 *unit(s)*
- FLED 184Y - Student Teaching II - Classroom Teaching 4-6 *unit(s)* (4 units required)
- KNED 184Y - Student Teaching II: Classroom Teaching 4-6 *unit(s)* (4 units required)
- MTED 184Y - Student Teaching II - Classroom Teaching 4-6 *unit(s)* (4 units required)
- MUED 184Y - Student Teaching II - Classroom Teaching 4-6 *unit(s)* (4 units required)
- SCED 184Y - Student Teaching II - Classroom Teaching 4 *unit(s)*
- SSED 184Y - Student Teaching II - Classroom Teaching 4-6 *unit(s)* (4 units required)

## Student Teaching Phase III (4-5 units)

Complete one of the student teaching phase III courses listed below:

- ARED 184Z - Student Teaching III - Classroom Teaching 4-6 *unit(s)* (4 units required)
- ENED 184Z - Student Teaching III - Classroom Teaching 4 *unit(s)*
- FLED 184Z - Student Teaching III - Classroom Teaching 4-6 *unit(s)* (4 units required)
- KNED 184Z - Student Teaching III - Classroom Teaching 4-6 *unit(s)* (4 units required)
- MTED 184Z - Student Teaching III - Classroom Teaching 4-6 *unit(s)* (5 units required)
- MUED 184Z - Student Teaching III-Classroom Teaching 4-6 *unit(s)* (4 units required)
- SCED 184Z - Student Teaching III - Classroom Teaching 4 *unit(s)*
- SSED 184Z - Student Teaching III - Classroom Teaching 4-6 *unit(s)* (4 units required)

## Seminar (0-2 units)

Complete one of the seminar course listed below:

- ARED 365 - Field Experience Seminar in Art Education 1 *unit(s)*
- ENED 365 - Seminar in English Education 2 *unit(s)*
- FLED 285 - Student Teaching Seminar In Foreign Language Education 1 *unit(s)*
- MTED 184S - Math Education Phase II Seminar 1 *unit(s)*
- SCED 375 - Colloquium in Science Education 2 *unit(s)*

## Total Units Required (35-39 units)

Elective courses must be selected in consultation with the Graduate Advisor.

Upon completion of the credential requirements, students must have achieved a SJSU Cumulative grade point average of 3.0 in order to be recommended for a credential.

## Teacher Librarian Credential

The Teacher Librarian program at the San José State University School of Information will prepare you for the next step in your teaching career as a library media specialist.

## Specialized Skills for K - 12 Careers

Graduates of the Teacher Librarian program at the SJSU School of Information will emerge with a specialization in the functions and skills necessary for employment in K - 12 schools including collaboration, technology leadership, and program administration.

As a teacher librarian, you'll be a teacher, a librarian, and an instructional partner.

## Credential + MLIS Degree

Students in the Teacher Librarian program can pursue both their Teacher Librarian Services Credential and Library and Information Science, MLIS degree! Teacher librarianship is one of the exciting career pathways students can follow within the MLIS program, which is fully accredited by the American Library Association.

## Learn More

- Sign up for future student emails.
- Download our brochure.
- Attend an online open house or watch a recording.
- Contact Dr. Mary Ann Harlan, Teacher Librarian program coordinator.
- Read the Gainful Employment Disclosure.

## Approved Course Work

The Teacher Librarian program course work meets the requirements for the California Teacher Librarian Services Credential. If you live in a state other than California, please check to see if the course work is approved by your home state before undertaking this program.

### Required Course Work for the TL Credential

#### Core Courses:

- INFO 200 - Information Communities *3 unit(s)*
- INFO 202 - Information Retrieval System Design *3 unit(s)*
- INFO 203 - Online Learning: Tools and Strategies *1 unit(s)*
- INFO 204 - Information Professions *3 unit(s)*

#### Program Curriculum and Technology:

- INFO 233 - School Library Media Centers *3 unit(s)*
- INFO 250 - Design and Implementation of Instructional Strategies for Information Professionals *3 unit(s)*

- INFO 285 - Applied Research Methods 1-4 unit(s)

### Information Services and Materials:

- INFO 237 - School Library Media Materials 3 unit(s)
- INFO 248 - Beginning Cataloging and Classification 3 unit(s)
- INFO 266 - Collection Management 3 unit(s)

### Capstone Course:

- INFO 295 - School Library Field Work 3 unit(s) (required for ALL Teacher Librarian program students)

### Additional Course Work for the MLIS Degree

To complete the required 43 units of course work for the MLIS degree, students add four more courses to the 31 units of required course work for the Teacher Librarian Services Credential, nine more elective units and INFO 298 - Advanced Topics in Library and Information Science (e-Portfolio) or INFO 299 - Thesis.

### Recommended Elective Courses for the MLIS in support of Teacher Librarianship:

- INFO 210 - Reference and Information Services 1-3 unit(s)
- INFO 240 - Information Technology Tools and Applications 3 unit(s)
- INFO 241 - Automated Library Systems 1-3 unit(s)
- INFO 246 - Information Technology Tools and Applications - Advanced 1-3 unit(s)
- INFO 260A - Programming and Services for Children Ages 0-8 3 unit(s)
- INFO 261A - Programming and Services for Young Adults Ages 9-18 3 unit(s)
- INFO 267 - Services to Youth 1-9 unit(s)
- INFO 275 - Library Services for Racially and Ethnically Diverse Communities 3 unit(s)
- INFO 281 - Seminar in Contemporary Issues 1-3 unit(s)
- INFO 282 - Seminar in Library Management 1-3 unit(s)
- INFO 283 - Marketing of Information Products and Services 1-3 unit(s)
- INFO 286 - Interpersonal Communication Skills for Librarians 1-3 unit(s)
- INFO 287 - Seminar in Information Science 1-3 unit(s)  
(Topics: STEM in Libraries; Innovation and Participatory Practice in Libraries (to include Maker Spaces))

### Contact

**Dr. Mary Ann Harlan**

Teacher Librarian Program Coordinator

maryann.harlan@sjsu.edu

*EDEL 102 - Psychological Foundations of Education*

3 unit(s)

Cognitive, affective and social/emotional development related to school settings. Theories of development, learning

and instruction critically examined. Other topics include individual differences, measurement, evaluation, instructional goals, classroom management and diversity in the classroom.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 103 - Social-Multicultural Foundations of Education*

3 unit(s)

Foundational preparation focused on implications of social, cultural, linguistic and economic diversity on teaching and learning. Emphasis on understanding the implications of history and social context on the educational endeavor in a pluralistic and democratic society.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 108A - Curriculum: Reading/Language Arts*

2-6 unit(s)

Elementary school language/literacy acquisition in culturally diverse classrooms; emphasis on listening, speaking, reading and writing within the context of theory and practice. May be repeated for different subtitle.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 108B - Curriculum: Science*

1-3 unit(s)

Elementary school science curriculum and theoretical approaches; emphasis on materials, methods, content and evaluation procedures for teaching science in elementary and middle schools in a multicultural and technological society. May be repeated for different subtitle.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 108C - Curriculum: Social Studies*

1-3 unit(s)

Elementary school social studies curriculum and instruction with emphasis on the influence of ethnic, linguistic, cultural, economic, gender and disability factors on present day culture.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 108D - Curriculum: Mathematics*

1-3 unit(s)

Elementary school mathematics curriculum and methodology relationships between instructional materials and how children construct knowledge; the role of technology and issues that bear on the teaching of school mathematics. May be repeated for different subtitle.



**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDEL 108E - Teaching Reading in Linguistically and Culturally Diverse Classrooms*

3 unit(s)

Assessing and teaching reading in diverse classrooms in grades K-8. Integrates research, theory and practice. Requires some classroom observation and working in schools with K-8 students.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** LING 108, ENGL 103 or LING 107.

**Grading:** Graded

**Note(s):** Should be taken in final semester of undergraduate program.

*EDEL 143A - Beginning Student-Teaching (Phase I)*

1-6 unit(s)

Role of state and local government in education. Clinical observation of classroom, school and district organization. Emphasis on lesson planning.

**Prerequisite(s):** Upper division standing.

**Grading:** Credit/No Credit

*EDEL 143B - Advanced Student-Teaching (Phase II)*

1-10 unit(s)

Practicum in public school classrooms at two grade levels for student teaching experience; includes field and campus seminar. Supervision by College of Education faculty.

**Prerequisite(s):** EDEL 143A.

**Grading:** Credit/No Credit

*EDEL 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*EDEL 294 - Research and Practices in Health and Special Education*

3 unit(s)

Introduces students to issues in health and special education that are necessary for them to know and be able to meet their legal and professional responsibilities. The course includes identifying, referring, and supporting students who may be at risk of health problems and have special needs. Students will also learn about effective instruction in health and special education content and skill development and how to create and support a safe and healthy environment for learning for all students.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*EDSC 153 - Student Teaching/Seminar for Interns*

2 unit(s)

Third of three courses required of second year interns. Action research, peer observation, and self reflection serve as vehicles for examining how instructional design affects student outcomes in content literacy. Includes classroom observations and professional development activities.

**Prerequisite(s):** EDSC 152.

**Grading:** Credit/No Credit

*EDSC 162 - Language/Literacy Development of L2 Learners*

3 unit(s)

Principles of language structure, variation, and usage. First and second language acquisition theories and application of teaching in diverse secondary classrooms. Social and psychological influences on linguistic behavior of students. Cultural and political issues affecting language attitudes.

**Prerequisite(s):** Program Director consent.

**Grading:** Graded

*EDSC 172A - Social, Philosophical Multicultural Fdn*

3 unit(s)

Social, cultural, historical and philosophical concepts in secondary teacher education: Application to problems of curriculum and instruction in multilingual, multicultural classrooms.

**Prerequisite(s):** Program director consent.

**Grading:** Graded

*EDSC 173 - Psychological Foundations of Secondary Teacher Education*

3 unit(s)

Application of developmental cognitive and socio-cultural theories of adolescent psychology and culture as a rationale for teaching and learning.

**Prerequisite(s):** Program director consent.

**Grading:** Graded

*EDSC 182 - Assessment and Evaluation*

3 unit(s)

Principles and practices of measurement and evaluation. Instructional objectives as criteria; construction, selection and use of evaluation instruments. Interpretation of data.

**Prerequisite(s):** Program director consent.

**Grading:** Graded

*EDSC 184X - Student Teaching I*

2-6 unit(s)

Supervised teaching of public middle or high school students. In-class experience ranging from observation to classroom teaching. Emphasis on application of theories examined in foundation courses.

**Prerequisite(s):** Program director consent.

**Grading:** Credit/No Credit

*EDSC 184Y - Student Teaching II*

2-6 unit(s)

Minimum 80-120 class periods of classroom teaching in grades K-12. Related school activities.

**Prerequisite(s):** Joint approval of major advisor, program director and field placement coordinator.

**Grading:** Credit/No Credit

*EDSC 184Z - Student Teaching III*

1-6 unit(s)

Minimum 80-120 class periods of classroom teaching in grades K-12. Related school activities.

**Prerequisite(s):** Joint approval of major advisor, program director and field placement coordinator.

**Grading:** Credit/No Credit

*EDSC 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*EDSC 200 - Academic Writing Seminar for Professional Educators*

3 unit(s)

This advanced writing seminar is designed to support COE students in their academic and professional writing. Students will receive support in the writing process and explicit instruction on the conventions of academic and professional writing via class sessions, regular individual conferences, and online dialogue.

**Grading:** Mandatory CR/NC/RP

*EDSC 246 - Learning Communities: Methods and Management*

3 unit(s)

Examine factors that contribute to a healthy, inclusive, and collaborative classroom community. Through critical reflection on their field experiences, teacher credential candidates develop a broad view of classroom management, and develop their own approach to building a learning community.

**Prerequisite(s):** EDSC 184X.

**Grading:** Graded

*EDTE 162 - Meeting the Needs of Second Language Learners*

3 unit(s)

Second Language acquisition theories and application of teaching in diverse secondary classrooms.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDTE 166 - Pre-Professional Experience*

1-3 unit(s)

Observation of learners; service as teacher assistants in public school classrooms; tutoring. May be repeated once.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Credit/No Credit

*EDTE 180 - Individual Studies*

1-3 unit(s)

Supervised study in specific fields of elementary or secondary education not covered by offered courses.

**Prerequisite(s):** Division head consent.

**Grading:** Credit/No Credit

*EDTE 190 - Health Education for the Classroom Teacher*

3 unit(s)

Current problems of individual, family and community health. Theories, organization, methods and materials for teaching health education.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*EDTE 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Graded

*EDTE 201 - Critical Issues in Education*

3 unit(s)

A cross-disciplinary investigation of fundamental value issues of American education in a democratic society, considered in the context of the problems and prospects of world civilizations.

**Grading:** Graded

*EDTE 208 - Educational Sociology*

3 unit(s)

Role of education in modern social, economic and political life. The school as institution. Problems in American life which affect and are affected by public schools.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDTE 210 - Becoming a Reader at Any Age*

3 unit(s)

Theory and practice of teaching beginning and struggling readers and writers, both native and nonnative English speakers.

**Prerequisite(s):** EDEL 108A or EDSC 138A.

**Grading:** Graded

*EDTE 211 - Developing Academic Language for Reading Across the Curriculum*

3 unit(s)

Focus on comprehension across subject areas for first and second language learners: background knowledge, fluency, vocabulary, and metacognition.

**Prerequisite(s):** EDEL 108A or EDSC 138A.

**Grading:** Graded

*EDTE 212 - Leadership, Politics and Literacy Program Evaluation*

3 unit(s)

Review of reading research, public policy and effective literacy programs for curriculum leaders.

**Prerequisite(s):** EDTE 216 and EDTE 217.

**Grading:** Graded

**Note(s):** Open to MA candidates in Reading only.

*EDTE 213 - Multicultural Literature for Children and Young Adults*

3 unit(s)

Literature for children and young adults that reflects diverse experiences and perspectives. Will address the role of this literature in classrooms.

**Grading:** Graded

*EDTE 214 - Learning in a High Tech Environment*

3 unit(s)

Teaching and learning with high technology from student-centered perspectives. Lab activities, field observations and investigations in individual areas of specialization. Includes theory to practice, exploring new uses of technology, logistics, leadership roles. May not be repeated in the same semester.

**Prerequisite(s):** EDIT 122 (or equivalent).

**Grading:** Graded

*EDTE 216 - Ongoing Assessment in Your Classroom*

3 unit(s)

Prevention and correction of reading/writing/language difficulties with emphasis on diagnosis and evaluation.

**Prerequisite(s):** EDEL 108A, EDSC 138A or instructor consent.

**Grading:** Graded

*EDTE 217A - Reading Practicum I*

3 unit(s)

For Reading/Language Arts Specialist Credential or Reading Certificate candidates. In a supervised after-school program, candidates work with struggling readers and implement effective ongoing assessment and instructional strategies to meet the needs of diverse struggling readers.

*Misc/Lab: Lecture 2.5 hours/Activity 1.0 hours*

**Prerequisite(s):** EDTE 210, EDTE 211, EDTE 216, EDTE 292.

**Grading:** Credit/No Credit

*EDTE 217B - Reading Practicum 2*

3 unit(s)

For Reading/Language Arts Specialist Credential or Reading Certificate candidates. In a supervised summer school program, candidates work with struggling readers and implement effective ongoing assessment and instructional strategies to meet the need of diverse struggling readers.

*Misc/Lab: 2.5 hour Seminar/1.0 hour activity*

**Prerequisite(s):** EDTE 210, EDTE 211, EDTE 216, EDTE 292

**Grading:** Credit/No Credit

*EDTE 223 - The Politics of Literacy*

3 unit(s)

State, national and global decisions about literacy instruction and the impact on the profession.

**Prerequisite(s):** Teaching experience or English major.

**Grading:** Graded

*EDTE 224 - Seminar in Educational Psychology*

3 unit(s)

Role of psychology in education. Contributions of educational research to current classroom practice and curriculum design. Applications of educational psychology research to current problems in education. Theoretical and practical approaches to understanding learning and teaching.

**Prerequisite(s):** EDSC 172A and EDEL 102.

**Grading:** Graded

*EDTE 230 - Mathematics: Teaching Common Core (K-3)*

3 unit(s)

Course focuses on the mathematical knowledge for teaching K-3 Common Core content standards and mathematical practices within the domains of number, operations, and algebraic thinking. Additional emphasis on pedagogical strategies to foster motivation, engagement, and development of academic language.

**Grading:** Graded

*EDTE 231 - Math Seminar: Common Core (grades K-3)*

3 unit(s)

Seminar focuses on implementation of Common Core standards and mathematical practices within teachers' specific curricular and school context. Emphasis on classroom implementation of high leverage mathematical practices within foundational K-3 content domains of number and operations, measurement, geometry, and data.

**Grading:** Graded

*EDTE 232 - Mathematics: Teaching Common Core (4-8)*

3 unit(s)

Course focuses on mathematical knowledge for teaching 4th -8th grade Common Core content standards and mathematical practices within the domains of number, operations, proportional relationships, and algebra. Additional emphasis on strategies to foster motivation, engagement, and development of academic language.

**Grading:** Graded

*EDTE 233 - Math Seminar: Common Core (grades 4-8)*

3 unit(s)

Seminar focuses on implementation of Common Core standards and mathematical practices within teachers' specific curricular and school context. Emphasis on classroom implementation of high leverage mathematical practices within foundational 4-8 content domains of algebraic thinking, measurement, geometry, statistics, and probability.

**Grading:** Graded

*EDTE 242R - Field Experience - Reading/Language Arts Specialist*

1-4 unit(s)

Conducting reading/language arts assessments; designing, organizing and implementing reading programs; assisting teachers with reading programs.

**Grading:** Credit/No Credit

*EDTE 244 - Seminar in School Curriculum*

3 unit(s)

Curriculum in the elementary and middle level school. Includes current issues and practices, curriculum planning and interrelation of theory and practice in elementary education curriculum.

**Prerequisite(s):** EDTE 208.

**Grading:** Graded

*EDTE 246 - Classroom Management and Governance*

1-3 unit(s)

Study of theory, practice and research related to effective communication in bilingual/cross-cultural settings.

**Prerequisite(s):** EDEL 102, EDEL 103, EDSC 172A and EDSC 173, or instructor consent.

**Grading:** Graded

*EDTE 247 - Supervisory/Coaching Practices for Teacher Leaders*

3 unit(s)

Development of coaching/supervisory behaviors which encourage the development of reflective practitioners. Includes understanding of principles and methods of observing teachers and children, and how to record, analyze and share data to best meet their needs.

**Prerequisite(s):** Two years of teaching experience.

**Grading:** Graded

*EDTE 250 - Qualitative Research in Education*

3 unit(s)

The role of qualitative research in education and society. Historical theoretical groundings, ethical considerations, procedures in development and evaluation of research proposals, techniques of research data analysis.

**Prerequisite(s):** EDEL 221 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy*

3 unit(s)

Critical study of theory, practice and research related to effective communication in cross-cultural, multilingual settings.

**Prerequisite(s):** EDEL 103.

**Grading:** Graded

*EDTE 261 - Cross-Cultural Communication for Teachers: Critical Studies in Language, Culture and Narrative*

3 unit(s)

Study of cross-cultural communication for teachers with a focus on theory and practice related to language, culture and narrative in educational settings.

**Prerequisite(s):** EDTE 225 or instructor consent.

**Grading:** Graded

*EDTE 262 - Classroom Issues in the Language/Literacy Development of L2 Learners*

3 unit(s)

Theories of first and second language acquisition and their application to teaching reading, writing and SDAIE in linguistically diverse classrooms.

**Prerequisite(s):** EDEL 108A or instructor consent.

**Grading:** Graded

*EDTE 281 - Philosophy of Education*

3 unit(s)

Critical philosophical issues as they bear on education in a democratic society.

**Grading:** Graded



*EDTE 290C - Research on Literacy Across the Curriculum for an Equitable Society*

3 unit(s)

Emphasis on research/teacher inquiry with attention to research designs and methods from various disciplinary perspectives for the study of literacy. An historical look at three additional program themes: Reading and Writing Across Cultures and the Curriculum; Second Language Learners; and The politics of Literacy.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

*Repeatable for credit.*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDTE 292 - Writing Across Cultures and the Curriculum*

3 unit(s)

Research, theory and practice of writing development of instruction for native and nonnative English speakers. Emphasis on writing in an integrated curriculum.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** EDEL 108A or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDTE 298 - Special Studies in Education*

1-6 unit(s)

Supervised study in a specific educational field.

**Prerequisite(s):** Consent of program director.

**Grading:** Mandatory CR/NC/RP

*EDTE 299 - Master's Thesis*

1-6 unit(s)

Supervised thesis in the field of education.

**Prerequisite(s):** Admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

*EDTE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

**Prerequisite(s):** RP grade in a preceding thesis or project semester.

**Grading:** Mandatory CR/NC/RP

**Note(s):** No Degree Credit.

## Ed.D Leadership Program

**Office:** Sweeney Hall 401

**Telephone:** 408-924-4098 (Voice); 408-924-3713 (Fax)

**Email:** edd-leadership@sjsu.edu

**Website:** www.sjsu.edu/edd

## Program Faculty Affiliated Faculty

### Professors

Paul Cascella

Arnold Danzig

Amy Leisenring

Kathleen McConnell

Nikos J. Mourtos

Bradley Porfilio, Director

Marcos Pizarro

Ferdinand Rivera

### Associate Professors

Rebeca Burciaga

Brent Duckor

Emily Slusser

Megan Thiele

### Assistant Professors

Allison Briceno

Ellen Middaugh

Eduardo Munoz-Munoz

### Professors

Elaine Chin

Deanna L. Fassett

Mark K. Felton

Peg Hughes

Resa M. Kelly

Michael L. Kimbarow

Elena Klaw

Shishir Mathur

Thomas Moriarty

Joyce Osland

Colette Rabin

Grinell Smith

### Assistant Professors

Saili Kulkarni

Preston O. Rudy

Lisa Simpson

# Overview

The Ed.D. in Educational Leadership at San José State University emphasizes human centered approaches to educational leadership. The program builds on the view that educational leaders serve in learner-centered systems in which inquiry, learning, equity, and human care are central concerns. The expected role for educational leaders involves creating a learning community, one that promotes collaboration and shared decision making. This view implies moving towards more distributed models of leadership and creating a public will that is networked, dispersed and charged with successfully educating all students. The doctoral program begins with an intensive on campus five-week summer session that meets three days per week. During the fall and spring semesters in years 1 and 2, two classes each semester are scheduled. Together, the classes meet one evening per week for 8-10 weeks and on 4 or 5 Saturdays. The second summer session includes a required a global experience including a two-week educational and cultural experience outside of the United States. No formal class sessions are scheduled during the final two semesters of the Ed.D. program, when students complete independent research as part of the dissertation.

## Doctoral

### Educational Leadership, EdD

The Ed.D. Program in Educational Leadership at San José State University is dedicated to developing outstanding education leaders who are well prepared to meet the demands and challenges of schools, today and in the future. The program builds on the following two basic principles: (1) schools are learner-centered organizations; and (2) educational leaders serve in human-care systems. The expected role of educational leaders involves creating a learning community that promotes collaboration and shared decision making. The Ed.D. Program is designed so that it may be completed in nine semesters over three years. This timeframe allows for the completion of all coursework, preproposal/ literature review, dissertation proposal, and completion of the dissertation. The program begins with an intensive on-campus five-week summer session that meets three days per week. Fall and spring semester classes are scheduled as hybrid classes and meet on evenings, weekends, and online during the semester. The second summer requires a global component that includes a two-week educational and cultural experience outside of the United States. It is anticipated that students will concurrently be working full time as they pursue their doctoral studies.

Additional information is available in the Ed.D Leadership Program Office or website: [www.sjsu.edu/edd](http://www.sjsu.edu/edd).

## Admissions Requirements

Candidates must meet all university and Ed.D. Program admission requirements. The university-level graduate application is separate from the application that is sent to the Ed.D. Program. Minimum requirements for the program include a master's degree from an accredited institution and a 3.0 grade point average (B or better) in the last 60 semester units completed. In exceptional cases, experience and service will be considered in lieu of the Master's degree requirement.

In addition to the university admissions requirements as outlined in this catalog, applicants must meet the Ed.D. Program requirements below.

- Three letters of recommendation attesting leadership ability and potential for success in a doctoral program. One of the letters should be from a school district employer indicating support for participation in the doctoral program. Recommendation forms are available on the Ed.D. Leadership Program webpage at [www.sjsu.edu/edd](http://www.sjsu.edu/edd). Recommendation letters should be submitted directly from the person writing the recommendation letter to [edd-leadership@sjsu.edu](mailto:edd-leadership@sjsu.edu).

- Current professional resume or curriculum vitae that includes leadership experience and/or leadership strengths as indicated through job experiences, administrative credentials, and/or other evidence of leadership capacity and practice. Resumes or vitae should not exceed 4 pages.
- A written statement of purpose that explains the reasons for pursuing doctoral studies in educational leadership. The statement should include relevant personal and professional history and background, some of the core commitments and principles that drive one's career goals, and challenges facing education and educational leadership in California, nationally, and globally. Statements should not exceed 3 pages, single-spaced.
- A recent writing sample (last 5 years) of an individually authored paper, research projects, or reports (maximum of 20 pages). All writing samples should be single-authored and include citations and references. The writing sample is intended to demonstrate the ability to construct a meaningful argument on an education-related topic and to cite research/literature to support one's views. A PowerPoint presentation is not acceptable.

## Requirements for Advancement to Graduate Candidacy

Students who have completed matriculation and have achieved classified standing in the Ed.D. Program curriculum will advance to candidacy for the Ed.D. degree. Students advance to candidacy after completing a minimum of 9 units of letter-graded work that is acceptable to the Ed.D. Program and fulfilling other university requirements for advancement to candidacy as detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Ed.D. Leadership Program Graduation Requirements

To be eligible for graduation, the candidate shall have completed all coursework and global out-of-country (or equivalent) requirements, pre-proposal/literature review, the dissertation proposal, IRB, and the doctoral dissertation. Students are required to complete the dissertation proposal in two attempts in order to proceed with the dissertation.

### Dissertation Requirements

- The Ed.D. dissertation is expected to contribute to an improvement in education practice and/ or education policy in the context of a particular educational institution. It is expected that the dissertation will show evidence of originality, critical and independent thinking, appropriate form and organization, and a rationale for the examined research problem or question.

- The dissertation must meet all university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with assistance from two other members of the dissertation committee. The Dissertation Committee consists of three members, one who serves as the committee chair (or in some cases, two co-chairs can be identified). Two members of the dissertation committee must be tenured or tenure-track members of the San Jose State University faculty. The third member of the committee is expected to be employed at a local school or school district and have achieved the terminal degree (e.g., Ed.D., J.D., Ph.D.).
- All students must enroll in a total of 12 units of dissertation credit during the final year of the program: 6 units in the fall semester and 6 units in the spring semester of Year 3 of the program. Once the candidate has enrolled in 12 dissertation units, the maximum allowable, continuous enrollment must be maintained until the dissertation is approved and filed and the degree is awarded.
- All students are expected to produce a dissertation that consists of five chapters, namely Introduction, Literature Review, Methodology, Results/Analysis, and Conclusions/ Recommendations. This is typically followed by a References section and relevant appendices. Alternatives to the traditional dissertation format will be considered, with approval by the faculty advisor/dissertation committee, within accepted norms of research, scholarship, and creative activities. The Lurie College of Education uses APA style for research and the SJSU Graduate Studies division provides additional formatting/style guidelines for theses and dissertations. An exception to the traditional five-chapter dissertation will be made on a case by case basis.
- After completing the dissertation proposal defense and obtaining IRB approval, students carry out the research plan described in the approved proposal, collect and analyze data, and continue writing the dissertation. The Dissertation Committee Chair and committee members will guide the students to ensure their dissertation conveys scholarly work that results from an appropriate research study and contributes to the understanding and/or improvement of educational practice.
- All students are expected to submit drafts of their dissertation to their committee members in the appropriate word-processed form. The completed final draft also includes the Abstract, Copyright Page, Title Page, Acknowledgments, Table of Contents, List of Tables, List of Figures, References, and Appendices. The students submit the final draft manuscript to committee members for a final reading and approval. The final dissertation may take a variety of forms depending upon the type of research undertaken. The conventional five-chapter dissertation may be revised to reflect a specific design and purpose.
- Dissertation Examination: Every candidate for the Ed.D. degree must successfully pass a final oral examination based on the dissertation. At the final oral defense, the candidate will make a public presentation of his or her dissertation research. The final oral defense is conducted as an open forum led by the candidate and guided by the Committee Chair and the two other members of the Dissertation Committee. The purposes of this formal meeting are to (1) examine and assess the quality of the dissertation; (2) evaluate the ability of the student to present research; and (3) provide an opportunity to share the research with the campus community. Unanimous agreement of the Dissertation Committee is required for approval of the dissertation and recommendation that the Ed.D. degree be conferred on the candidate.

## Doctorate Requirements (60 units)

### Core Courses (48 units)

#### Educational Leadership and Education Policy (12 units)

- EDD 510 - Educational Leadership: Theory and Practice *3 unit(s)*
- EDD 512 - Leadership, Complexity, and Systems Thinking *3 unit(s)*
- EDD 515 - Leadership, Diversity, and Culture: Family, School and Community Connections *3 unit(s)*
- EDD 535 - Education Policy, Resource Allocation and School Reform *3 unit(s)*

## Organizational Behavior and Adult Learning (9 units)

- EDD 511 - Leadership for Learner Centered Organizations 3 *unit(s)*
- EDD 520 - Organizational Behavior and Change in Education 3 *unit(s)*
- EDD 522 - Communication and Educational Leadership 3 *unit(s)*

## Contexts for Educational Leadership (12 units)

- EDD 530 - Assessment, Testing and Evaluation: Contexts and Implications for School Reform 3 *unit(s)*
- EDD 536 - The Politics of Education and Finance of Schooling 3 *unit(s)*
- EDD 540 - Education and Leadership in Global Context: Globalization & Narrative Ethics 3 *unit(s)*
- EDD 585 - Field Experience: Global Context 3 *unit(s)*

## Research Methodology: Tools for the Scholar-Practitioner (15 units)

- EDD 501 - Quantitative Analysis for Educational Research 3 *unit(s)*
- EDD 502 - Qualitative Methods in Educational Research 3 *unit(s)*
- EDD 591A - Proseminar I: Introduction to Doctoral Studies in Educational Leadership 3 *unit(s)*
- EDD 591B - Proseminar II - Practitioner-Led Research 3 *unit(s)* (GWAR)
- EDD 591C - Professional Seminar III: Structuring & Writing a High Quality Dissertation 3 *unit(s)*
- Quality Dissertation 3 *unit(s)*
- International Out-of-Country Experience 0 *unit(s)*

## Culminating Experience (12 units)

- EDD 599 - Dissertation 1-12 *unit(s)* (*Students take EDD 599 for two semesters.*)
- Dissertation Defense

## Total Units Required (60 units)

### Satisfactory Academic Progress

All students are expected to make satisfactory progress in accordance with the Ed.D. cohort structure and program of study through the time of advancement to candidacy. The normal expectation is that students will attend and participate in all required program components. In the event that a lack of attendance/participation would cause a student to fail to maintain a grade point average of 3.0, the student would be notified and counseled regarding requirements for satisfactory progress toward the degree in the time specified by program faculty.

A student must earn a grade of "C" or better in all required classes in the doctoral program, with all "sub-C" grades considered as failure; those classes would have to be repeated, and students would have one additional chance to do so. Failure to achieve the "C" grade in two chances would result in a recommendation for administrative/academic disqualification. All students are expected to achieve a grade point average of 3.0 or above in all semesters of coursework. In addition to the university requirements for minimal grade point average and academic disqualification, the Ed.D. Program requires that all students achieve a minimum grade point average of 3.0 or above in every semester of coursework. A student who achieves less than a 3.0 GPA in a given semester will be required to attend a meeting with the Ed.D. Director, the student's advisor (if an advisor has been assigned), and the faculty member teaching the course (s) in which a grade below a "B" has been assigned. Possible outcomes of this meeting include (1) a recommendation for a remediation plan for the student, (2) academic probation in the Ed.D. Program with the

recommendation of disqualification if achieved GPA falls below 3.0 in a subsequent semester, or (3) a recommendation that the student be immediately disqualified from taking further coursework in the doctoral program.

Additionally, satisfactory progress pertains to doctoral students' adherence to the high standards of professional ethics. Students must adhere to scholarly and ethical standards in all courses, fieldwork, and research endeavors. Such standards are defined by the faculty, the professional accrediting bodies, policies of the university and the CSU, and relevant statutes of federal, state, and local governments. Students may be placed on probation or disqualified based on unsatisfactory scholastic progress or failure to adhere to professional and ethical standards.

We note that, according to university policy, a student who falls below a 3.0 GPA in an academic term will be notified in writing that he/she has been placed on academic probation. When the student's overall GPA is below 3.0, failure to achieve a term GPA of 3.0 in any subsequent semester results in academic disqualification.

In all cases, a disqualified student will not be allowed to continue in the program, enroll in doctoral-level courses, or register in the doctoral program. The disqualification will be communicated to the student in writing through certified mail. A disqualified student will be permitted to apply for reinstatement into the Ed.D. Program; consideration of the student's application for reinstatement will occur along with consideration for all new applications into the program in a given year.

Students who need to make up assignments must work with the faculty member teaching a particular class, and it is up to each individual faculty member how best to negotiate missed assignments and/or requests for a grade of Incomplete. In the event that lack of attendance/participation causes a student to fail to maintain a GPA of 3.0, the student will be notified of academic probation and counseled regarding requirements for satisfactory progress toward the degree.

Any student may request a leave of absence from the Ed.D. Program for up to one year through a written request to the Ed.D. Director and a formal petition to the university. To be considered, the student should explain the reasons for the request and any mitigating circumstances involved. The request may be approved or denied by the Director in consultation with the Ed.D. Program faculty. If approved, the approval will stipulate the timeline and conditions or options for returning to the doctoral program. One possible option is for the student to join a later cohort and resume taking the classes that were missed.

#### *EDD 501 - Quantitative Analysis for Educational Research*

*3 unit(s)*

Students will develop a comprehensive understanding of the statistical principles used in the description and analysis of data. Students will also learn how to conduct appropriate statistical analyses, interpret findings, and compose meaningful reports while examining how these skills can lead to being a more informed and involved educator.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

#### *EDD 502 - Qualitative Methods in Educational Research*

*3 unit(s)*

Explores qualitative research approaches and methods including participant observation, interviews, ethnography, narrative and case study approaches; includes methods of data analysis such as discourse analysis, dialogic analysis, and visual analysis.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

#### *EDD 510 - Educational Leadership: Theory and Practice*

3 unit(s)

This course presents an overview of the major concepts and theories that constitute the knowledge base in the leadership of education, including an examination of leadership theories from early models of hierarchical control to contemporary models of shared leadership and organizational transformation.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 511 - Leadership for Learner Centered Organizations*

3 unit(s)

Students will develop the knowledge and skills for examining, designing and implementing organizational, classroom, and training conditions that support quality learning experiences for individuals in the organization.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 512 - Leadership, Complexity, and Systems Thinking*

3 unit(s)

This course presents principles, theories, attributes related to individual leadership development. It includes concepts related to systems thinking that are critical to the long-term sustainability of your school, agency, or organization.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 515 - Leadership, Diversity, and Culture: Family, School and Community Connections*

3 unit(s)

Educational leadership and management issues related to an increasingly diverse student body in educational institutions. Reviews educational research, practice, theory and legal matters within local and global contexts. Students engage in activities and discussions focused on strategies utilized by social justice advocates that have the potential to improve educational experiences and opportunities in P-12 settings, and in university-school-community partnerships. Emphasis placed on the interaction between underrepresented segments of society and educational institutions with attention to varying cultural backgrounds, communication patterns, social networks, leadership and administrative styles.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 520 - Organizational Behavior and Change in Education*

3 unit(s)

This course seeks to interpret and analyze observed organizational processes, behavior, and potential solutions using theoretical insights. The course relies on seminar discussions, theory applications, and an organizational change design project and evaluation research design.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 522 - Communication and Educational Leadership*



3 unit(s)

This course analyzes popular narratives on education and practices persuasive, rhetorical strategies for using those narratives to shape public expectations of educators, students, and schools.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 525 - District Office Administration: The Superintendency*

3 unit(s)

An overview of the major concepts and theories that constitute the knowledge base in the superintendency, including public education governance, role characterizations and management responsibilities, the conditions of practice and contemporary challenges, the school organization, federal and state policy and superintendent-school board relations.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 530 - Assessment, Testing and Evaluation: Contexts and Implications for School Reform*

3 unit(s)

This course provides a historical, analytical and empirical framework for understanding assessment, testing and evaluation in K-12 education. The context aims at exploring the current national and state accountability policy regimes in the U.S. particularly those linked to the Common Core Standards movement.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 535 - Education Policy, Resource Allocation and School Reform*

3 unit(s)

This course is designed for students to develop understanding of education policy. The course explores the formation, design, and implementation of school reform efforts across different levels of educational system.

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Graded

*EDD 536 - The Politics of Education and Finance of Schooling*

3 unit(s)

This course presents an overview of the major concepts and theories that constitute the knowledge base in the politics of education and finance of schooling.

**Grading:** Graded

*EDD 540 - Education and Leadership in Global Context: Globalization & Narrative Ethics*

3 unit(s)

This course provides global perspectives on education and leadership in contemporary society with emphasis on social, political, and economic factors that affect access and equity and the role of leadership.

**Grading:** Graded

*EDD 585 - Field Experience: Global Context*

3 unit(s)

Lectures, field visits, and extended study of education and leadership in global context

**Grading:** Mandatory CR/NC/RP

*EDD 591A - Proseminar I: Introduction to Doctoral Studies in Educational Leadership*

3 unit(s)

This course provides an orientation to the doctoral program in educational leadership, doctoral studies more generally, and an overall introduction to educational leadership studies. The seminar will discuss the skills and practices needed to be successful doctoral students, both as consumers and producers of research.

**Grading:** Credit/No Credit

*EDD 591B - Proseminar II - Practitioner-Led Research*

3 unit(s)

The course content focuses on practice-led research methods and the problems they are best suited to answer. In practice-led research, the primary focus of the research is to advance knowledge about practice, or to advance knowledge within practice.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EDD 591C - Professional Seminar III: Structuring & Writing a High Quality Dissertation*

3 unit(s)

The focus of the seminar is to facilitate the production of a high quality dissertation. Candidates will gain a deep understanding of the expectations of dissertation writing by examining published dissertations and considering relevant applications to their own dissertation writing.

**Grading:** Mandatory CR/NC/RP

*EDD 599 - Dissertation*

1-12 unit(s)

Over the final year of the program, students must enroll in 12 units of dissertation credit. This course carries degree credits to recognize work done on the dissertation and is to be used on the candidacy form and to fulfill graduation requirements.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Acceptance into the Ed.D. Program

**Grading:** Mandatory CR/NC/RP

*EDD 1290R - Culminating Experience Supervision*

*1 unit(s)*

Continued work on dissertation or project.

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

# Charles W. Davidson College of Engineering

- Overview
- Engineering Student Success Center (ESSC)
- Preparation for Engineering Programs
- Preparation for Technology and Aviation Programs
- Progress to Degree Requirements
- General Education Requirements
- Undergraduate Programs Offered
- Graduate Programs Offered

**Office:** Engineering Building 493

**Telephone:** (408) 924-3800

**Email:** [engineering@sjsu.edu](mailto:engineering@sjsu.edu)

**Website:** [engineering.sjsu.edu](http://engineering.sjsu.edu)

## Overview

The Charles W. Davidson College of Engineering offers undergraduate and graduate programs in Aerospace Engineering; Biomedical, Chemical and Materials Engineering; Civil and Environmental Engineering; Computer and Software Engineering; Electrical Engineering; General Engineering; Industrial and Systems Engineering; Mechanical Engineering; Industrial Technology, and Aviation. Each department offers a variety of major and minor programs which are identified in their respective parts of this catalog. General Engineering also offers interdisciplinary degrees in Engineering.

## Engineering Student Success Center (ESSC)

**Office:** Engineering Building 116

**Telephone:** 408-924-3990

**Email:** [success-engineering@sjsu.edu](mailto:success-engineering@sjsu.edu)

**Website:** [www.engr.sjsu.edu/students/essc](http://www.engr.sjsu.edu/students/essc)

The goal of the Engineering Student Success Center is to mentor students from admission through graduation. The Center provides academic advising, support services, and opportunities for professional development and practice.

The MESA Engineering Program and the Women in Engineering Program work to increase the number of graduates entering the engineering profession from traditionally under-represented and economically disadvantaged groups. MEP actively recruits students, provides support services until graduation and acts as liaison with companies offering employment experiences. MEP assists students with admissions, academic and personal counseling, financial aid and scholarships, housing and registration. MEP maintains a study center for tutoring, workshops, individual and group study and social functions. A summer job placement program assists students in obtaining jobs in industry.

The Community for Engineering Learning and Living (CELL) is a themed living community offered by the University Housing Services for first year engineering students. CELL's objectives are to provide a cooperative learning environment, to encourage and build the engineering community and to foster a sense of belonging and responsibility to the community. Through facilitated study groups, CELL students will experience the academic support and cooperation of a community committed to academic success. CELL students will have regular access to faculty, advisors and industry professionals through workshops and programs. CELL is about shared experiences and creating a vibrant and caring engineering community.

## Preparation for Engineering Programs

To prepare for engineering, the high school student should take as much advanced math and science as possible, as well as high school engineering and technology courses that may be available at their school. Students with scores of 4 or above on the AP Calculus exams may be able to accelerate their degree program; students who are not calculus-ready on entrance may take a longer time to graduate. Students transferring from California community colleges will be given junior level standing in the Major if they have successfully completed the following course work:

- 12 semester units of calculus and differential equations
- 5-10 semester units of chemistry
- 8-13 semester units of physics which require calculus as a prerequisite
- 10-14 units of lower division engineering appropriate to their engineering major

Transfer students should use [assist.org](http://assist.org) or this SJSU online catalog to determine the specific lower division requirements of their major. Graduation following two academic years of study is possible if the student completes all lower division units before transfer, satisfactorily completes the required upper division coursework and remains in good standing in the Major.

## Preparation for Technology and Aviation Programs

To prepare for technology and aviation majors, the high school student should take industrial technology classes such as electronics, drafting, and manufacturing, or any engineering classes offered at their school, and should complete courses in physics, chemistry, and pre-calculus or calculus. Community college students are urged to complete as many of the lower division requirements as possible in chemistry, physics, mathematics and technology or aviation at the community college.

## Progress to Degree Requirements

All College of Engineering undergraduates are required to stay in good standing in their major by maintaining a Major GPA of 2.0 or above. The Major GPA includes all courses required for the major, including both lower and upper division math, science, engineering, technology, aviation or business courses required by their major. Some departments have additional grade requirements for individual courses, groups of courses or all courses taken in their department. See departmental sections for these requirements. Additional university GPA requirements are specified elsewhere in this catalog.

Incoming Engineering frosh, or other students seeking to change major into Engineering, must complete MATH 30 (or 30X), MATH 31 ( or 31X) and PHYS 50 within their first 60 units at SJSU. The Progress to Degree policy can be found on the College advising website.

## General Education Requirements

Of the 51 units required by the university up to 27 units may be satisfied by specified major and support requirements. Engineering majors may satisfy the remaining units by taking AMS 1A-AMS 1B (12 units), ENGL 1A-ENGL 1B (6 units), Oral Communication (3 units) and ENGR 100W(3 units). Transfer students may satisfy core GE through the IGETC or CSU breadth requirements. Consult advisors in the Engineering Student Success Center for details.

## Undergraduate Programs Offered

The College of Engineering offers BS degrees in:

- Aerospace Engineering, BS
- Aviation, BS
- Biomedical Engineering, BS
- Chemical Engineering, BS
- Civil Engineering, BS
- Computer Science, BS
- Electrical Engineering, BS
- General Engineering, BS
- Industrial and Systems Engineering, BS
- Industrial Technology, Computer Network System Management Concentration, BS
- Industrial Technology, Manufacturing Systems Concentration, BS
- Materials Engineering, BS
- Mechanical Engineering, BS
- Software Engineering, BS

Please see the Majors and Programs or Colleges and Departments listings in this catalog for information about each undergraduate major.

## Graduate Programs Offered

The College of Engineering offers graduate work leading to Master of Science degrees in:

- Aerospace Engineering, MS
- Artificial Intelligence, MS
- Biomedical Engineering, MS
- Biomedical Engineering, Biomedical Devices Concentration, MS
- Chemical Engineering, MS
- Civil Engineering, MS
- Computer Engineering, MS
- Electrical Engineering, MS
- Engineering Management, MS
- Engineering, Electronic Materials and Devices Concentration, MS
- Engineering, MS
- Human Factors/Ergonomics, MS
- Industrial and Systems Engineering, MS
- Materials Engineering, MS
- Mechanical Engineering, MS
- Quality Assurance, MS

- **Software Engineering, MS**

Graduate work offered by the College of Engineering reflects and supports the advanced scientific and technological endeavor which is typical of California industry, government and business.

Departmental curricula provide full- and part-time students the opportunity either to obtain master's degrees or to take specialized courses to improve job capabilities.

The Master of Science in Engineering offered by the Department of General Engineering (Interdisciplinary) has unique, interdisciplinary characteristics which may be particularly appealing to persons with a bachelor's degree in engineering who are currently working in a technical management area and wish to extend their education.

The College of Engineering requires that all students whose native language is not English achieve a minimum score of 550 on the TOEFL examination. Students who meet this and the requirements for admission to the Graduate Division as outlined in this catalog should see individual department listings for requirements for admission to classified standing, conditionally classified standing and admission to candidacy for the specific degree in engineering.

In addition to departmental requirements, the University requires that all graduate students demonstrate competency in written English as a condition for advancement to candidacy. Please refer to the SJSU catalog section titled "Competency in Written English" for details. For graduate courses that meet the competency in written English requirement, please refer to the Graduate Studies and Research website at [www.sjsu.edu/gradstudies](http://www.sjsu.edu/gradstudies). In addition, all graduates must complete an acceptable thesis, project or comprehensive examination.

## Engineering Extended Studies (EES)

Engineering Extended Studies (EES) Department at San Jose State University is the agile arm of the Charles W. Davidson College of Engineering. The department supports continuous learning in a climate of constant disruption.

## Department of Aerospace Engineering

**Office:** Engineering Building 272

**Telephone:** 408-924-3965

**Website:** [www.sjsu.edu/ae](http://www.sjsu.edu/ae)

### Professors

Nikos J. Mourtos, Chair  
Periklis Papadopoulos

### Assistant Professors

Lucia Capdevila  
Maria Chierichetti  
Fabrizio Vergine

## Overview

Aerospace engineers research, design, and develop high-speed transportation vehicles, such as airplanes, spacecraft, space stations, planetary vehicles, and space probes. Approximately half of all aerospace engineers work

in the aerospace industry (e.g. Boeing, Lockheed-Martin, Cessna, etc.), 15% work for government agencies (e.g. NASA, Department of Defense, etc.), and the rest work in engineering services, research, testing, and navigation functions. Aerospace engineers also work in industries not associated with aerospace, such as automotive, where they may work both on the improvement of the aerodynamics of automobiles and on a number of related areas due to the breadth of their preparation. Students in our program have opportunities to participate in international hands-on design-build-fly competitions or work with engineers from local industry to design-build-test and launch microsatellites into space. The BS Aerospace Engineering program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## Undergraduate

### Aerospace Engineering, BS

- Department of Aerospace Engineering
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 18

Major Preparation 36

Major Requirements 66

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

#### Major-Specific Graduation Requirements

Students in this major must complete all courses in Required in the Major (All courses in Preparation, Core, and Concentration/Specialization) with a "C or better" to graduate.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.



## University Requirements (18 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

### Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (36 units)

*To qualify for a baccalaureate degree in Aerospace Engineering, a student must receive a grade of "C" or better in all courses in preparation for the major.*

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- MATH 39 - Linear Algebra I 3 unit(s)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 unit(s)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 unit(s) (B1+B3)

## Major Requirements (66 units)

To qualify for a baccalaureate degree in Aerospace Engineering, a student must receive a grade of "C" or better in all courses required for the major.

### Core Courses (16 units)

- EE 98 - Introduction to Circuit Analysis 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- MATE 25 - Introduction to Materials 3 *unit(s)*
- AE 20 - Computer-Aided Design for Aerospace Engineers 2 *unit(s)*
- AE 30 - Computer Programming for Aerospace Engineers 2 *unit(s)*

### Required Courses (39 units)

- AE 112 - Aerospace Structural Analysis I 4 *unit(s)*
- AE 114 - Aerospace Structural Analysis II 3 *unit(s)*
- AE 138 - Vector-Based Dynamics for Aerospace Applications 3 *unit(s)*
- AE 140 - Rigid Body Dynamics 3 *unit(s)*
- AE 157 - Aerospace Automatic Control Systems Design 3 *unit(s)*
- AE 160 - Aerodynamics I 3 *unit(s)*
- AE 162 - Aerodynamics II 3 *unit(s)*
- AE 164 - Aerothermodynamics 5 *unit(s)*
- AE 165 - Aerospace Flight Mechanics 3 *unit(s)*
- AE 167 - Aerospace Propulsion 3 *unit(s)*
- AE 168 - Aerospace Vehicle Dynamics and Control 3 *unit(s)*
- AE 169 - Computational Fluid Dynamics 3 *unit(s)*

### Capstone (8 units)

#### Complete One Option:

#### Option 1

- AE 171A - Aircraft Design I 3 *unit(s)* (S)
- AE 171B - Aircraft Design II 3 *unit(s)* (V)
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* (S)
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* (V)

#### Option 2

- AE 172A - Spacecraft Design I 3 *unit(s)* (S)
- AE 172B - Spacecraft Design II 3 *unit(s)* (V)
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* (S)
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* (V)

## Technical Electives (3 units)

A technical elective may be chosen from the following list:

- AE 110 - Space Systems Engineering 3 *unit(s)*
- AE 142 - Astrodynamics 3 *unit(s)*
- AE 166 - Rocketry 3 *unit(s)*
- AE 173 - Design of Unmanned Aerial Vehicles 3 *unit(s)*
- Selected non-AE courses may also be eligible, with departmental approval 3 *unit(s)*

## Total Units Required (120 units)

## Master

### Aerospace Engineering, MS

The MSAE Program, offered by the Department of Aerospace Engineering, is designed to prepare students for professional careers in industry or advanced study in Ph.D. programs. Students develop skills in research, design, development, experiment design, testing, and systems integration in air and space transportation systems. In addition to advanced aerospace engineering courses, electives are available in science, business, and other engineering fields. Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis. The MSAE Program welcomes students with undergraduate degrees in other engineering or science disciplines. For more information visit [www.sjsu.edu/ae/programs/msae/](http://www.sjsu.edu/ae/programs/msae/).

## Educational Objectives for Graduate Program

To provide MSAE graduates with

1. A strong foundation beyond the undergraduate level in their chosen focus area as well as in mathematics, basic science, and engineering fundamentals, to be able to solve current aerospace engineering problems.
2. Contemporary professional and lifelong learning skills to successfully compete for technical engineering positions in the local, national, and global engineering market, advance in their current position or pursue doctoral studies.
3. Expertise necessary to work in the analysis, design, development, and testing of aerospace engineering systems with possible specialization in areas such as aircraft design or space transportation and exploration.
4. Strong verbal and written communication skills, including the ability to write engineering reports.
5. Ability to perform research and work independently to solve open-ended aerospace engineering problems.

## Admissions Requirements

Candidates must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

To be admitted to classified standing, a student must possess a BS degree in Aerospace Engineering or related field (e.g., Aeronautical Engineering, Astronautical Engineering or Space Engineering, etc.) from an accredited institution with a grade point average of 2.75 or better in the last 60 units.

Students may be admitted with conditionally classified standing if they have a BS degree in any engineering or science discipline from an accredited institution. Students with conditionally classified standing will take a series of BSAE core courses based on their evaluation by the AE Graduate Coordinator.

If an applicant's bachelor's degree is not from a US or Canadian university, a GRE must be taken; minimum scores acceptable for admission are listed on the Graduate Program Test Requirements webpage at GAPE. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Prior to registering for the first time (or upon re-entering), a student should consult with the AE Graduate Coordinator to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their letter of acceptance. Students who have completed matriculation and achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100- or 200-level courses acceptable to the AE Department as well as fulfilling the other university requirements for advancement to candidacy for the MS degree, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

### Requirements for Graduation

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## MS - Aerospace Engineering Graduation Requirements

The AE Department offers courses designed to provide a flexible curriculum structure that allows students to follow a course of study to meet their individual career goals. As shown below, the program consists of 30 semester units of approved work, including 6 units devoted to a thesis or project. The required coursework includes 6 units of advanced mathematics and computational methods, 12 units of aerospace core subjects, and 6 units of electives.

In selecting a project/thesis topic, the student must first identify a faculty member in his or her area of interest. Once the faculty member agrees to act as the student's project/thesis advisor, a program of study is established, including the project/thesis topic.

## Culminating Experience (Plan A or Plan B)

In selecting a Plan A (Thesis) or Plan B (Project) topic, the student must first identify a faculty member in his / her area of interest. Once the faculty member agrees to act as the student's advisor, a program of study is established, including the thesis or project topic. In either option students perform graduate level research and/or design and/ or development, involving aerospace systems or components of aerospace systems under the supervision of an AE faculty member. Students are encouraged to submit and present their work at student and/or professional conferences.

A project or thesis proposal is due to the AE 295A/ AE 299 Course Coordinator no later than the 2nd week of class. A written progress report is due at the end of each month. The first progress report must include a review of the relevant literature. An end-of-semester written report is expected at the end of the 1st semester.

### Plan A (Thesis)

A thesis requires approval by a committee of three members. Two of the thesis committee members must be SJSU faculty. An AE faculty member must agree to serve as the chair of the committee. Students must secure the commitment of all three members of their thesis committee. The committee must approve the student's thesis proposal no later than the 2nd week of the 1st semester. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the other committee members. The candidate for the MSAE degree must successfully pass a final oral defense of the thesis.

### Plan B (Project)

In the Project Option students work under the supervision of an AE faculty member.

## Masters Requirements (30 units)

### Advanced Mathematics and Computational Methods (6 units)

- AE 200 - Engineering Analysis and Control of Aerospace Systems 3 *unit(s)*
- AE 269 - Advanced Computational Fluid Dynamics 3 *unit(s)*

### Core Courses (15 units)

- AE 267 - Space Propulsion Systems 3 *unit(s)*

### Complete one course:

- AE 271 - Advanced Aircraft Design 3 *unit(s)* (GWAR)
- AE 273 - Aircraft Subsystems 3 *unit(s)* (GWAR)

### Complete one course:

- AE 242 - Orbital Mechanics and Mission Design 3 *unit(s)*
- AE 243 - Advanced Astrodynamics 3 *unit(s)*
- AE 245 - Spacecraft Dynamics and Control 3 *unit(s)*
- AE 246 - Advanced Aircraft Stability and Control 3 *unit(s)*

**Complete one course:**

- AE 250 - Advanced Structures and Materials 3 *unit(s)*
- AE 251 - Structural Vibrations for Aerospace Applications 3 *unit(s)*

**Complete one course:**

- AE 262 - Advanced Aerodynamics 3 *unit(s)*
- AE 264 - Gas Dynamics 3 *unit(s)*
- AE 280 - Hypersonics and Reentry Systems 3 *unit(s)*

**Area of Specialization (3 units)**

Students may specialize in one of the two areas listed below. Students may choose one elective in consultation with the AE Graduate Coordinator.

**Aircraft Design**

- One additional elective 3 *unit(s)*

**Space Transportation and Exploration**

- One additional elective 3 *unit(s)*

**Culminating Experience (6 units)**

**Complete One Option (Plan A or Plan B):**

**Plan A (Thesis)**

- AE 299 - Aerospace Engineering Masters Thesis 3 *unit(s)* (*Students take AE 299 twice.*)

**Plan B (Project)**

- AE 295A - Aerospace Engineering Masters Project I 3 *unit(s)*
- AE 295B - Aerospace Engineering Masters Project II 3 *unit(s)*

**Total Units Required (30 units)**

Elective courses must be planned in consultation with the AE Graduate Coordinator. Students may also choose electives from other engineering fields, science, or business.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Aerospace Engineering Minor

The Minor in Aerospace Engineering introduces non-majors to aerospace engineering applications and in particular to the basic principles of the fundamental aerospace engineering disciplines, such as aerodynamics, aerospace structures and materials, flight mechanics, aerospace dynamics, stability and control.

Students must complete a minimum of 12 units as listed under the course requirements. All of these units must be outside the requirements for the student's major, i.e. the same courses cannot be listed on the minor and the major form.

Students in majors other than engineering and certain STEM majors may need to take additional courses to meet prerequisites for the courses required in this minor.

Interested students are recommended to meet with an Aerospace Engineering Minor advisor.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Preparation (11 units)

- MATH 30 - Calculus I *3 unit(s) (B4)*  
MATH 30X may be used instead of MATH 30.
- MATH 31 - Calculus II *4 unit(s) (B4)*  
MATH 31X may be used instead of MATH 31.
- PHYS 50 - General Physics/Mechanics *4 unit(s) (B1B3)*

#### Minor Requirements (13 units)

##### Required Courses (4 units)

- AE 15 - Air & Space Flight: Past, Present, and Future *1 unit(s)*
- AE 100 - Fundamentals of Aerospace Engineering *3 unit(s)*

##### Elective Courses (9 units)

Upon completion of the **Required Courses**, students must choose at least three (3) elective courses:

- AE 110 - Space Systems Engineering 3 *unit(s)*
- AE 112 - Aerospace Structural Analysis I 4 *unit(s)*
- AE 160 - Aerodynamics I 3 *unit(s)*
- AE 165 - Aerospace Flight Mechanics 3 *unit(s)*
- AE 166 - Rocketry 3 *unit(s)*

## Total Units Required (24 units)

**AE 160 Note:** Aerospace Engineering minors may take any 100W course.

### *AE 15 - Air & Space Flight: Past, Present, and Future*

1 *unit(s)*

Introduction to the history, basic principles, current and future developments of the aerospace engineering field through projects, guest speakers and field trips.

**Grading:** Graded

### *AE 20 - Computer-Aided Design for Aerospace Engineers*

2 *unit(s)*

The course provides an introduction to the fundamentals of drafting and computer-aided design with applications in aircraft and spacecraft design.

*Misc/Lab: Lecture 2 hours/Lab 3 hours*

**Grading:** Graded

### *AE 30 - Computer Programming for Aerospace Engineers*

2 *unit(s)*

C language: Variables, data types, operators, functions, modular programming, input/output sequence, pointers and memory addressing, external libraries, dynamic memory allocation. MATLAB: Variables, scripts, operations, visualization, plotting and programming. Equation solving and curve fitting. Symbolics, Simulink and I/O building block.

*Misc/Lab: Lecture 1 hours/Lab 3 hours*

**Grading:** Graded

### *AE 92 - Int'l Program Studies*

1-12 *unit(s)*

**Grading:** Mixed Grading

### *AE 100 - Fundamentals of Aerospace Engineering*

3 *unit(s)*

Introduction to the fundamental disciplines and concepts of aerospace engineering and in particular of aerodynamics, aerospace structures, stability and control, propulsion, and flight mechanics.



**Prerequisite(s):** Grade of "C" or better in MATH 30 or MATH 30X and PHYS 50; or graduate standing.  
**Grading:** Graded

*AE 110 - Space Systems Engineering*

3 unit(s)

Introduction to design, analysis and operation of spacecraft power, communications, attitude determination/control, structures, propulsion, thermal management systems. Typical payload systems design and operation, including remote Earth sensors. System integration issues. Lab experiments.

Lecture 2 hours/Lab 3 hours.

**Prerequisite(s):** Grade of "C" or better in AE 100 or AE 165 or graduate standing.  
**Grading:** Graded

*AE 112 - Aerospace Structural Analysis I*

4 unit(s)

Aircraft loads, V-n diagram; spacecraft boost loads. Free-body diagrams, 2-D and 3-D force and moment equilibrium. Centroid and area moment of inertia. Shear force and bending moment diagrams; cantilevered wings & internal support structures; stress/strain relationships; Mohr's Circle. Experimental strain measurement.

**Prerequisite(s):** Grade of C or better in PHYS 50 and (MATH 31 or MATH 31X); or Graduate Standing.  
**Corequisite(s):** MATE 25, ENGR 100W OR Graduate Standing.  
**Grading:** Graded

*AE 112W - AE Structural Analysis I Problem-Solving Workshop*

1 unit(s)

Optional support course for AE 112, Aerospace Structural Analysis I. Workshop content and activities are coordinated with material discussed in the AE 112 lecture.

**Corequisite(s):** AE 112.  
**Grading:** Graded

*AE 114 - Aerospace Structural Analysis II*

3 unit(s)

Aircraft, missile, spacecraft structural design and analysis. Static, elastic and stress analysis of structures. Structural materials. Deflection analysis of structural systems. Conventional, stiffened, sandwich and composite structures. Structural dynamics. Thermal effects.

**Prerequisite(s):** AE 112 or Graduate Standing  
**Corequisite(s):** ENGR 100W  
**Grading:** Graded

*AE 135 - Introduction to Composite Materials*

3 unit(s)

Introduction to theory, application, and design with composite materials, including high performance resin-matrix fibrous composites and metal-matrix materials. Topics include materials, test techniques, environmental effects, design considerations, and application requirements.

**Prerequisite(s):** MATE 25.  
**Grading:** Graded

*AE 138 - Vector-Based Dynamics for Aerospace Applications*

3 unit(s)

Vector mechanics of three degree-of-freedom particle motion. Particle kinematics, reference frames and rotational relative motion. Two degree-of-freedom rigid body motion, moments/products of inertia. Particle & rigid body equations of motion and numerical time histories.

**Prerequisite(s):** Grade of "C" or better in MATH 32 or MATH 32X and PHYS 50.  
**Corequisite(s):** AE 112.  
**Grading:** Graded

*AE 138W - Vector-Based Dynamics Problem-Solving Workshop*

1 unit(s)

Optional support course for AE 138, Vector-Based Dynamics for Aerospace Applications. Workshop content and activities are coordinated with material discussed in the AE 138 lecture.

**Corequisite(s):** AE 138.  
**Grading:** Graded

*AE 140 - Rigid Body Dynamics*

3 unit(s)

Coordinate frames and descriptions of absolute and relative motion. General equations of rotational motion for single and multibody systems in Euler and Lagrangian formulations. Elasticity and dissipation effects. Spinning body motions. Impulsive motions. Applications to aerospace vehicles.

**Prerequisite(s):** C- or better in AE 138 OR Graduate Standing  
**Grading:** Graded

*AE 142 - Astrodynamics*

3 unit(s)

Two-body problem analysis and orbit design; Kepler's Laws; Single-impulse orbit transfers; Hohmann transfers; Circularization; Plane changes; Kepler's Equation; Planetary sphere of influence; Vector mechanics and relative motion of interplanetary flight; Patched conic trajectory model; Gravity-assist trajectories; Case studies; Restricted three-body problem.

**Prerequisite(s):** AE 138, AE 165  
**Grading:** Graded

*AE 157 - Aerospace Automatic Control Systems Design*

3 unit(s)

Modeling and analysis of aerospace feedback control systems. Stability analysis, root locus design, and frequency response methods for aerospace vehicles and associated automatic control systems. Nyquist/Bode diagrams. Lead-lag, PID compensator designs for aircraft and spacecraft.

**Prerequisite(s):** Grade of "C" or better in MATH 33A, MATH 39, AE 138 or Graduate Standing.

**Grading:** Graded

*AE 160 - Aerodynamics I*

*3 unit(s)*

Introduction to incompressible, inviscid and viscous aerodynamics through problem solving, computer simulations, water and wind-tunnel experiments, films, and service learning. Topics include aerodynamic forces and moments, flow classification and similarity, conservation laws with applications in the calculation of lift and drag, and boundary layer theory with emphasis on calculation of skin friction and pressure drag.

**Prerequisite(s):** Grade of "C" or better in MATH 31 or MATH 31X, and PHYS 50. Or graduate standing.

**Grading:** Graded

*AE 160W - Aerodynamics I Problem-Solving Workshop*

*1 unit(s)*

Optional support course for AE 160, Aerodynamics I. Workshop content and activities are coordinated with material discussed in the AE 160 lecture.

**Corequisite(s):** AE 160.

**Grading:** Graded

*AE 162 - Aerodynamics II*

*3 unit(s)*

Two-dimensional and three-dimensional, incompressible and compressible potential flow theory. Airfoil and wing theory for subsonic, supersonic, and hypersonic flows. Flow visualization in a water tunnel. Lift and drag measurements in a subsonic wind tunnel.

**Prerequisite(s):** Prerequisite(s): Grade of "C" or better in ENGR 100W, MATH 33A and (AE 160 or ME 111) or Graduate Standing. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*AE 164 - Aerothermodynamics*

*5 unit(s)*

Thermodynamic laws. Shock and expansion waves with applications to supersonic airfoils and wings. Nozzle flow. Flow with heat addition and friction. Aerodynamic heating. Conduction, convection and radiative heat transfer.

**Prerequisite(s):** PHYS 52 and AE 160 with a grade of C or better in each, or graduate standing

**Grading:** Graded

*AE 164W - Aerothermodynamics Problem-Solving Workshop*

*1 unit(s)*

Optional support course for AE 164, Aerothermodynamics. Workshop content and activities are coordinated with material discussed in the AE 164 lecture.

**Corequisite(s):** AE 164.

**Grading:** Graded

*AE 165 - Aerospace Flight Mechanics*

3 unit(s)

Trajectory dynamics of atmospheric flight (aircraft and missiles) and spaceflight (orbital mechanics). Influence of vehicle design on trajectory. Aircraft static performance, stability and control. Rocket launch and re-entry dynamics. Computer simulations.

**Prerequisite(s):** Grade of "C" or better in MATH 31 or MATH 31X, and PHYS 50 with a grade of "C" or better, or graduate standing.

**Grading:** Graded

*AE 166 - Rocketry*

3 unit(s)

Introduction to rocketry through theory, computer simulations, and development / launch of an amateur level rocket. Topics include basic principles of aerodynamics, vehicle structures, rocket propulsion, flight mechanics, avionics, as well as past and current launch vehicle technologies.

*Seminar 2 hours, Lab 2 hours.*

**Prerequisite(s):** AE 100 or AE 165 with a grade of "C" or better.

**Grading:** Graded

*AE 167 - Aerospace Propulsion*

3 unit(s)

Basic one-dimensional flows: isentropic, area change, heat addition. Overall performance characteristics of propellers, ramjets, turbojets, turbofans, rockets. Performance analysis of inlets, exhaust nozzles, compressors, burners, and turbines. Rocket flight performance, single-/multi-stage chemical rockets, liquid/solid propellants and design problems.

**Prerequisite(s):** AE 160 and AE 164 with a grade of 'C-' or better in each. Allowed Declared Majors: Engineering, Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*AE 168 - Aerospace Vehicle Dynamics and Control*

3 unit(s)

Aircraft/spacecraft dynamics, stability and control. Linearization and Euler transformations. Eigenvalues and eigenvectors. State space and transfer function analysis of dynamics of aerospace vehicles. Feedback control design and synthesis using advanced control techniques.

**Prerequisite(s):** Prerequisite(s): AE 140, AE 157, AE 165 and MATH 39 with a grade of "C-" or better in each.

Allowed Declared Majors: Aerospace Engineering. Or Graduate Standing.

**Grading:** Graded

*AE 169 - Computational Fluid Dynamics*

3 unit(s)

Physical and mathematical foundations of computational fluid mechanics with emphasis on applications. Solution methods for the advection, diffusion model equations, the Euler and the Navier-Stokes equations. The finite volume formulation of the equations. Classification of partial differential equations and solution techniques. Truncation errors,

stability analysis.

**Prerequisite(s):** Grade of "C" or better in MATH 39 and (AE 160 or ME 111). Or Graduate Standing.

**Grading:** Graded

*AE 171A - Aircraft Design I*

*3 unit(s)*

First course in a two-semester sequence, in which students work in teams to complete the conceptual and preliminary design of an aircraft. Students are challenged to consider the relationship of aerospace engineering to the broader community.

*Lab 9 hours*

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Must be senior in good standing with C or better in AE 20, AE 162, AE 165, ENGR 100W. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Allowed Declared Major: Aerospace Engineering or Graduate Standing.

**Pre/Corequisite(s):** AE 164 AE 165, ENGR 195A

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: AE 171B, ENGR 195A and ENGR 195B. All of SJSU Studies courses require completion of the WST and upper division standing.

*AE 171B - Aircraft Design II*

*3 unit(s)*

Second course in a two-semester sequence, in which students work in teams to complete the conceptual and preliminary design of an aircraft. Students are challenged to consider the relationship of aerospace engineering to the broader community.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** AE 171 and ENGR 195A with a grade of 'C' or better in each, senior standing or graduate level standing.

**Corequisite(s):** AE 167, AE 169, and ENGR 195B.

**Grading:** Graded

**Note(s):** Meets GE areas S and V when course is taken in combination with: AE 171A, ENGR 195A and ENGR 195B.

*AE 172A - Spacecraft Design I*

*3 unit(s)*

First course in a two-semester sequence in which students work in teams to complete the conceptual and preliminary design of a spacecraft. Students are challenged to consider the relationship of aerospace engineering to the broader community.

*Misc/Lab: Lab 9 hours.*

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Must be senior in good standing with C or better in AE 20, AE 162, AE 165, ENGR 100W. Or graduate level. Passage of the Writing Skills Test (WST) or ENGL 100A/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses.

**Pre/Corequisite(s):** AE 164, AE 168, ENGR 195A

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: AE 172B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

*AE 172B - Spacecraft Design II*

*3 unit(s)*

Second course in a two-semester sequence, in which student teams complete the conceptual, preliminary, and detail design of a spacecraft. Projects integrate general education (GE) student learning outcomes including the relationship of aerospace engineering to the broader community both in the U.S. and worldwide, ethics, safety and liability issues, as well as issues of culture, civilization and global understanding in relationship to aerospace engineering practice.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** AE 172A, ENGR 195A with a grade of 'C' or better, senior in Good Standing or Graduate standing.

**Corequisite(s):** AE 167, AE 169 and ENGR 195B.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: AE 172A, ENGR 195A and ENGR 195B.

*AE 173 - Design of Unmanned Aerial Vehicles*

*3 unit(s)*

Conceptual and preliminary design of autonomous aerial vehicles (UAVs). Review of low Reynolds number fixed and rotary wing aerodynamics, with a focus on wing and rotor design. Vehicle dynamics and control, flight path planning and optimization, control system design.

**Grading:** Graded

*AE 180 - Individual Studies*

*1-3 unit(s)*

Individual work on special topics. By arrangement.

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Graded

*AE 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*AE 199 - Special Topics in Aerospace Engineering*

1-4 unit(s)

Special topics that are currently of interest to industry and academia. Content varies from semester to semester.

Course may be repeated for credit for up to 12 units.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*AE 200 - Engineering Analysis and Control of Aerospace Systems*

3 unit(s)

Engineering analysis and control; linear algebra; ordinary differential equations; Laplace transformation; complex analysis; singular values; matrix perturbations; state-space models; input/output and robust stability; reachability and observability; feedback stabilization; H<sub>2</sub> and H-infinity optimization.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*AE 210 - Advanced Space Systems Engineering*

3 unit(s)

Overview of the engineering process used in aerospace mission and system design spanning the entire system life cycle for the near-Earth and outer space environment. Effects of gravity field, temperature and radiation on physical systems and the human organism. Mission program inception, proposal development, cost analysis and risk management.

**Prerequisite(s):** BSAE or Instructor Consent

**Grading:** Graded

*AE 242 - Orbital Mechanics and Mission Design*

3 unit(s)

Two-body problem, conic sections, time of flight. Gibb's method of orbit determination, maneuver analysis for Earth orbiters and interplanetary flight. Euler-Hill equations. Mission design constraints on orbit geometry and launch window analysis.

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 243 - Advanced Astrodynamics*

3 unit(s)

Analysis of spacecraft motion using different dynamic models and perturbations. Use of the state transition matrix and differential corrections technique for trajectory computation. Orbit determination and station-keeping methods. Introduction to the three-body problem. Application of computational and analytic methods to solve astrodynamics problems.

**Prerequisite(s):** AE 242.

**Grading:** Graded

*AE 245 - Spacecraft Dynamics and Control*

3 unit(s)

Rigid body dynamics review. Attitude kinematical representations. Development and solution of general equations of motion. Single and dual-spin, zero and biased-momentum spacecraft. Control system design strategies. Common torquer elements. Computer simulations.

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 246 - Advanced Aircraft Stability and Control*

3 unit(s)

Natural longitudinal and lateral/directional motion of aircraft; mode shapes, eigenvalues, eigenvectors. Analysis and synthesis of various aircraft autopilots using classical and state space formulations.

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 250 - Advanced Structures and Materials*

3 unit(s)

Design and analysis of modern flight structures including static and dynamic structural response; materials design including metals, alloys, composites. Introduction to modern computational methods including finite elements.

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 251 - Structural Vibrations for Aerospace Applications*

3 unit(s)

Introduces the analysis of vibrations of very flexible bodies encountered as elements of aircraft wings and space structures. Topics include: free and forced vibrations of single- and multi-degree of freedom systems, simplified analysis of vibrations induced by flutter, free and forced vibrations of wings in bending and torsion, signal processing techniques for time-varying signals, forced and ground vibration testing of aerospace components, finite element analysis for wings and space structures, spacecraft and aircraft dynamic design loads.

**Prerequisite(s):** Graduate standing in Aerospace or Mechanical Engineering or instructor consent.

**Grading:** Graded

*AE 262 - Advanced Aerodynamics*

3 unit(s)

Thin airfoil theory. Prandtl's lifting-line theory. Subsonic and supersonic airfoil and wing theory. High-angle of attack aerodynamics. Boundary layer theory; Blasius and Falkner-Skan solutions, compressible boundary layers, turbulent flows, separation criteria.

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 264 - Gas Dynamics*

3 unit(s)

Advanced topics in compressible flow theory with emphasis on the design of high subsonic, supersonic and



hypersonic vehicles. In addition to classical compressible flow theory and problem solving, the course may include supersonic wind tunnel experiments and computer simulations.

**Prerequisite(s):** Graduate standing in AE/ME or instructor consent

**Grading:** Graded

*AE 267 - Space Propulsion Systems*

*3 unit(s)*

Rocket propulsion fundamentals. propulsion requirements for: multi-stage launch; orbit establishment, maneuvers and maintenance; spacecraft attitude control. Nozzle flow, thermochemical calculation of performance. Design and performance calculations for systems and components of chemical rockets (liquid, solid, hybrid), electric rockets and advanced concepts.

**Prerequisite(s):** BSAE or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*AE 269 - Advanced Computational Fluid Dynamics*

*3 unit(s)*

Advanced topics in computational fluid dynamics and numerical techniques to solve the Euler and Navier-Stokes equations. The student will use MatLAB, grid generation, CFD and visualization software for homework, and projects.

*Misc/Lab: Seminar 2 hours/lab 3 hours.*

**Prerequisite(s):** BSAE or Instructor Consent.

**Grading:** Graded

*AE 271 - Advanced Aircraft Design*

*3 unit(s)*

Project course in which students complete the preliminary design of an airplane of their choice. The design process involves defining the mission requirements, weight sizing, performance sizing, fuselage design, wing, high-lift system and lateral controls design, landing gear design, weight and balance, stability and control, drag polars, and final drawings. Final report includes discussion of environmental, economic and safety considerations for the airplane.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate Standing in AE/ME or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*AE 273 - Aircraft Subsystems*

*3 unit(s)*

Aircraft subsystem analysis and design: flight controls; avionics and electrical systems; cabin systems; landing gear and other mechanical systems; systems safety analysis.

**Prerequisite(s):** Graduate Standing or instructor consent

**Grading:** Graded

*AE 280 - Hypersonics and Reentry Systems*

3 unit(s)

Fundamental principles of hypersonic aerodynamics. Development of important theory and techniques, discussion of salient results with emphasis on physical aspects, and presentation of modern thinking on the subject.

**Prerequisite(s):** Graduate Standing or instructor consent.

**Grading:** Graded

*AE 295A - Aerospace Engineering Masters Project I*

3 unit(s)

This is a first-semester aerospace engineering Master's Project supervision course. Students perform original, graduate level research or design or development, involving aerospace systems under the supervision of an aerospace engineering faculty member or engineers from NASA / aerospace industry.

**Prerequisite(s):** Admission to candidacy for the master's degree and a written proposal approved by instructor and graduate advisor. Not available to Open University Students.

**Grading:** Graded

*AE 295B - Aerospace Engineering Masters Project II*

3 unit(s)

This is a second-semester aerospace engineering Master's Project supervision course, following AE295A. Students perform original, graduate level research and/or design and/or development, involving aerospace systems or subsystems under the supervision of an aerospace engineering faculty member and/or engineers from NASA / aerospace industry.

**Prerequisite(s):** A grade of "B" or better in AE 295A

**Grading:** Graded

*AE 297 - Special Topics in Aerospace Engineering*

1-4 unit(s)

Special topics that are currently of interest to industry and academia. Content varies from semester to semester. Repeatable for up to six units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing or instructor consent

**Grading:** Graded

*AE 298 - Special Projects in Aerospace Engineering*

1-3 unit(s)

Advanced individual work in Aerospace Engineering.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*AE 299 - Aerospace Engineering Masters Thesis*

3 unit(s)

Master's thesis work in aerospace engineering. Participation in a teaching experience.

**Prerequisite(s):** Grade of "B" or better in 1st sem. to continue in 2nd sem.

**Grading:** Mandatory CR/NC/RP

*AE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** RP grade in a preceding thesis or project semester.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Aviation and Technology

**Office:** Industrial Studies 111

**Telephone:** 408-924-3190 (Voice); 408-924-3198 (Fax)

**Website:** [www.engr.sjsu.edu/avtech](http://www.engr.sjsu.edu/avtech)

### Professors

Fred Barez, Chair (Aviation and Technology)

Patricia Ryaby Backer (Technology)

Samuel Obi (Technology)

Wenben Wei (Aviation)

### Assistant Professors

Francesca Favaro (Aviation)

Fatemeh Davoudi Kakhki (Technology)

Ting Li (Aviation)

Pouya Ostovari (Technology)

Tyler Spence (Aviation)

David Yan (Technology)

## Overview

### Aviation

The oldest and largest provider of aviation degrees on the West Coast, the Aviation programs in the Department of Aviation and Technology prepare students for careers as professional pilots, airport managers, technical, marketing and quality control managers, and other aviation industry professionals. Students receive hands-on experience in both basic and advanced aviation principles and procedures, including aircraft design, aviation safety, air traffic control, and legal and labor issues in national and international aviation. Bachelor degree candidates have the option to focus on professional flight, operations, aviation management, or maintenance management—a specialty that complements an AS-level Federal Aviation Administration (FAA)-approved community college maintenance program. Aviation classes are held both on campus and off-site at our Reid-Hillview Airport facility.

## Technology

Choose a career in applied engineering design and management focused on green operations and sustainable manufacturing or in the dynamic, changing field of computer electronics and network technology. Two undergraduate Industrial Technology programs, accredited by the Association for Technology Management and Applied Engineering ([www.ATMAE.org](http://www.ATMAE.org)), are offered by the Department of Aviation and Technology: a bachelor's degree with a concentration in Computer Electronics and Network Technology (CENT) and a bachelor's degree with a concentration in Manufacturing Systems (sustainable manufacturing). The curriculum also prepares students who are interested in obtaining single subject teaching credentials in Industrial Technology Education in order to pursue careers as public school teachers and industry trainers. The Department also offers graduate work leading to the Master of Science in Quality Assurance (this program is currently not accepting students).

## Note to Veterans

Those students who have successfully completed armed forces instructional programs in aviation and who have been awarded units by the Admissions Office for this service training may apply such credit as appropriate toward any of the major or minor programs offered by the department.

## Honors Program

Students who have maintained a 3.5 grade point average in all aviation courses are eligible for the departmental honors program. Qualified candidates may apply or be nominated by the faculty, during their junior year. To meet the honors course requirements, candidates must enroll in at least two units of Aviation 180H Individual Studies. This individual studies course is specifically structured for honors students. Students who successfully complete the two, one-unit honors courses, and who maintain the required 3.5 grade point average, will qualify for the award of departmental honors at graduation.

## Supplementary Authorizations for Teaching Credential

Students who want to teach Industrial Technology Education but are completing or have completed a credential in another area should apply for a supplementary authorization. See a Department of Aviation and Technology advisor who specializes in teacher preparation for specific content requirements for a supplementary authorization approved by the California Commission on Teacher Credentialing. Undergraduate students intending to enter a teaching credential program, should view the Teacher Preparation section of the catalog for more information.

# Undergraduate

## Aviation, BS

The concentration Aviation is offered by the Department of Aviation and Technology. The curriculum provides a four-year pattern of course work for those interested in the several different aspects of aviation. In addition to the required course work in general education, aviation, science and business, the student has the opportunity to choose one of four options - Professional Flight, Operations, Aviation Management, or Maintenance Management.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	27
Major Preparation	22
Major Requirements	71
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". With the exception of ENGR 100W which must be completed with a "C or better".

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (27 units)

## Core Lower Division General Education (15 units)

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

## Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Requirements (22 units)

- BUS2 90 - Business Statistics 3 unit(s)
- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4) (MATH 30 or MATH 30X may be used in lieu of MATH 71)

### Complete One Course From:

- BUS1 20 - Financial Accounting 3 unit(s)
- BUS1 20N - Survey of Accounting 3 unit(s)

### Complete One Sequence From:

#### Physics A

- PHYS 2A - Fundamentals of Physics 4 unit(s) (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 unit(s) (B1+B3)

## Physics B

- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3) (*Students may use PHYS 2B instead of PHYS 51*)

## Major Requirements (71 units)

To qualify for a baccalaureate degree in Aviation, students must earn a grade of "C-" or better in each required major and preparation course.

### Core Courses (27 units)

- AVIA 78 - Introduction to Aviation Management 3 *unit(s)*
- AVIA 128 - Aviation Safety and Security 3 *unit(s)*
- AVIA 141 - Human Factors in the Aviation Environment 3 *unit(s)*
- AVIA 173 - Aviation Law 3 *unit(s)*
- AVIA 176 - Airline Operations and Management 3 *unit(s)*
- AVIA 190 - Senior Capstone Seminar 3 *unit(s)*
- AVIA 198 - Aviation and Human Civilization 3 *unit(s)* (V)
- BUS3 186 - Professional and Business Ethics 3 *unit(s)* (S)
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)

### Specialized Courses (44 units)

**Choose One of the Following Options.**

#### Flight Operations

- AVIA 1 - Introduction to the Aviation Industry 3 *unit(s)*
- AVIA 31 - Aircraft Theory and Design 3 *unit(s)*
- AVIA 42 - Aircraft Systems 3 *unit(s)*
- AVIA 43 - Propulsion Theory 3 *unit(s)*
- AVIA 68 - Avionics and Airborne Communication 3 *unit(s)*
- AVIA 73 - Air Traffic Control 3 *unit(s)*
- AVIA 91 - Aircraft Turbine Engines 3 *unit(s)*
- AVIA 110 - Aviation Meteorology 3 *unit(s)*
- AVIA 178 - Airport Planning and Management 3 *unit(s)*
- AVIA 193 - Aerodynamics 3 *unit(s)*
- AVIA 194 - Pilot Avionics and General Aviation Systems 3 *unit(s)*
- Major Elective 8 *unit(s)*

#### Complete One Course From:

- AVIA 177 - General Aviation Operations and Management 3 *unit(s)*
- AVIA 179 - Advanced Airport Planning and Management 3 *unit(s)*

- AVIA 195 - Internship with the Aviation Industry 1-6 *unit(s)*

## Professional Flight

*Students in the Professional Flight option are required to select an affiliated flight school and earn three FAA pilot ratings. The costs of flight training are not included in the tuition at SJSU.*

- AVIA 1 - Introduction to the Aviation Industry 3 *unit(s)*
- AVIA 2 - Private Pilot Ground 3 *unit(s)*
- AVIA 3 - Introduction to Private Pilot Part 141 Flight 2 *unit(s)*
- AVIA 31 - Aircraft Theory and Design 3 *unit(s)*
- AVIA 42 - Aircraft Systems 3 *unit(s)*
- AVIA 43 - Propulsion Theory 3 *unit(s)*
- AVIA 62 - Instrument Pilot Ground 3 *unit(s)*
- AVIA 63 - Instrument Rating Part 141 Flight 2 *unit(s)*
- AVIA 68 - Avionics and Airborne Communication 3 *unit(s)*
- AVIA 73 - Air Traffic Control 3 *unit(s)*
- AVIA 91 - Aircraft Turbine Engines 3 *unit(s)*
- AVIA 110 - Aviation Meteorology 3 *unit(s)*
- AVIA 112 - Commercial Pilot Ground 3 *unit(s)*
- AVIA 113 - Commercial Professional Pilot Part 141 Flight 2 *unit(s)*
- AVIA 193 - Aerodynamics 3 *unit(s)*
- Major Elective 2 *unit(s)*

## Aviation Management

- AVIA 1 - Introduction to the Aviation Industry 3 *unit(s)*
- AVIA 31 - Aircraft Theory and Design 3 *unit(s)*
- AVIA 42 - Aircraft Systems 3 *unit(s)*
- AVIA 43 - Propulsion Theory 3 *unit(s)*
- AVIA 73 - Air Traffic Control 3 *unit(s)*
- AVIA 177 - General Aviation Operations and Management 3 *unit(s)*
- AVIA 178 - Airport Planning and Management 3 *unit(s)*
- AVIA 179 - Advanced Airport Planning and Management 3 *unit(s)*
- BUS1 170 - Fundamentals of Finance 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- Major Elective 4 *unit(s)*

## Requirements for Minor in Business (6 units)

- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*

## Complete One Courses From:

- BUS3 150 - Fundamentals of Human Resource Management 3 *unit(s)*
- BUS5 141 - Procurement and Supply Management 3 *unit(s)*



- BUS5 145 - Global Operations Strategy 3 *unit(s)*
- BUS5 167 - Managing Environmental Issues 3 *unit(s)*
- BUS5 181 - Introduction to Entrepreneurship 3 *unit(s)*

## Maintenance Management

### Airframes and Powerplants (A&P) coursework (30 units)

In order to complete this option, a student must complete an AS-level FAA-approved maintenance programs at an accredited community college, such as those listed below, prior to beginning upper division coursework. See <http://avtech.sjsu.edu/department> for more information.

### Additional Courses Taken at SJSU (14 units)

- BUS5 141 - Procurement and Supply Management 3 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ISE 155 - Supply Chain Engineering 3 *unit(s)*
- TECH 145 - Lean Manufacturing 3 *unit(s)*
- Major Elective 1 *unit(s)*

## Total Units Required (120 units)

# Industrial Technology, Computer Network System Management Concentration, BS

The Bachelor of Science in Industrial Technology with a concentration in Computer Network System Management (CNSM), offered by the Department of Aviation and Technology, is designed to prepare graduates for the ever increasing employment opportunities in the field of Computer Network Systems and Management. You will gain knowledge, skills, and practical experiences in the Internet of Things (IoT), network theory and administration, wireless communication, network security and prevention management, and cyber security management.

- Program Learning Outcomes

The computer network professional plans for implementation of systems, maintains the software and hardware, monitors the system for potential disturbances, analyzes problems, and develops plans for potential solutions. A computer network specialist professional is a problem solver who assures the network system is operational, secure, and protected at all times against cyber-attacks.

Computer and networking professionals are employed to facilitate the exchange and use of data in an organization in furtherance of organization goals. They also protect individuals, companies, and government organizations and their information throughout the enterprise. This requires that such professionals be knowledgeable about and familiar with constantly changing technologies and security processes. The major priority of the computer networking specialist professional is the day-to-day support that keeps the network functioning and secure. Graduates of the BSIT in Computer Network System Management will be able to:

1. Demonstrate strong communication, critical thinking, and interpersonal skills
2. Use skills in team development, dynamics, and management to work as team players
3. Demonstrate ethical behavior and concern for colleagues, society, and the environment
4. Demonstrate leadership skills for a technology professional
5. Implement and manage computer and network systems

6. Solve problems related to daily interruptions of information flow
7. Design and interface components for connected products
8. Manage databases and cloud computing systems and services
9. Implement and manage Internet of Things (IoT) systems
10. Apply cybersecurity techniques to protect networks from attacks

### Summary of Degree Units

University Graduation Requirements	24
Major Preparation	26
Major Core Requirements	21
Concentration Requirements	30
Technical Elective	3
Minor Requirements	15
University Electives	1
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better".

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (24 units)

### Core Lower Division General Education (18 units)

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (26 units)

*May also take PHYS 50 and PHYS 51 instead of PHYS 2A/PHYS 2B*

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- TECH 30 - Introduction to Python Programming 3 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (*MATH 30 or MATH 30X may be used in lieu of MATH 71*)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

## Major Requirements (54 units)

To qualify for a baccalaureate degree in Industrial Technology with a concentration in Computer Network System Management, students must earn a grade of "C-" or better in each major and preparation course.

### Core (21 units)

- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- TECH 60 - Introduction to Electronics 3 *unit(s)*
- TECH 65 - Introduction to Networks 3 *unit(s)*
- TECH 145 - Lean Manufacturing 3 *unit(s)*
- TECH 190A - Senior Project I 3 *unit(s)*
- TECH 190B - Senior Project II 3 *unit(s)*
- TECH 198 - Technology and Civilization 3 *unit(s)* (V)

### Computer Network System Management (CNSM) Concentration (30 units)

- TECH 63 - Analog and Digital Circuits 3 *unit(s)*
- TECH 66 - Network Administration 3 *unit(s)*
- TECH 67 - Introduction to Internet of Things 3 *unit(s)*
- TECH 68 - Internet of Things Systems 3 *unit(s)*
- TECH 136 - Software Quality Management 3 *unit(s)*
- TECH 165 - Wireless Communications Technologies 3 *unit(s)*
- TECH 170 - Connected Products Applications 3 *unit(s)*
- TECH 171 - Network Security & Prevention Management 3 *unit(s)*
- TECH 173 - Cloud Computing System Management 3 *unit(s)*
- TECH 179 - Cyber Security System Management 3 *unit(s)*

### Technical Elective (3 units)

Complete three units from any advisor approved upper division TECH or ENGR courses

### Business Minor (15 units)

(required for this major)

- BUS1 20 - Financial Accounting 3 *unit(s)*
- BUS2 90 - Business Statistics 3 *unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*
- BUS3 186 - Professional and Business Ethics 3 *unit(s)* (S)

Complete One Course From:

- BUS5 141 - Procurement and Supply Management 3 *unit(s)*
- BUS5 142 - Total Quality Management 3 *unit(s)*
- BUS5 145 - Global Operations Strategy 3 *unit(s)*

University Electives (1 unit)

Total Units Required (120 units)

## Industrial Technology, Manufacturing Systems Concentration, BS

The Bachelor of Science in Industrial Technology with a concentration in Manufacturing Systems, offered by the Department of Aviation and Technology, is designed to prepare students for technical and management careers in business and industry. Manufacturing Systems prepares you for a career in manufacturing design and management with a special focus on green operations and sustainable manufacturing. You will gain knowledge, skills, and practical experiences in innovative manufacturing processes and management, green product design, computer integrated manufacturing, sustainable manufacturing practices, robotics and control systems, and computer aided manufacturing.

- Program Learning Outcomes

This dynamic and expanding field applies computer design tools and other advanced technologies to the solving of problems in manufacturing systems, computer aided design and manufacturing (CAD/CAM), and computer integrated manufacturing (CIM). A new, strong emphasis on green design practices and sustainable operations will add to your basic and advanced industrial manufacturing design knowledge. Graduates of the BSIT in Manufacturing Systems will be able to:

1. Use skills in the planning, design, and implementation of sustainable manufacturing processes.
2. Implement Green Design solutions to industrial and consumer product design challenges.
3. Use understanding of the product life cycle and the management of product manufacturing to direct sustainable operations in industry and business.
4. Design and plan sustainable and green industrial facilities in conformance with LEEDS and other environmental standards.
5. Select and operate computer numerical control and other machines for the production of consumer and commercial products.
6. Use knowledge of the uses, advantages, and disadvantages of current and evolving manufacturing techniques including laser machining, electrical discharge machining, water jet and abrasive water jet machining, and rapid prototyping in modern production systems.
7. Select, analyze and use polymers, composites and other materials in the design of manufactured products.
8. Apply the theory and methods of computer-integrated manufacturing (CIM), including the computer-aided design/computer-aided manufacturing (CAD/CAM) interface to industrial problems and settings.

9. Use the principles of production scheduling and planning in the management of the industrial environment.
10. Use robots and mechatronics for sustainable operations in a modern CIM environment.
11. Apply the latest methods for materials and production management including Just-in-Time (JIT), Materials Resource Planning (MRP), and Lean Manufacturing.
12. Integrate green design, sustainable manufacturing, and recyclable/reusable materials into the design and development of new products.
13. Apply the principles of Lean Manufacturing to manufacturing and soft systems.
14. Apply OSHA and NIOSH principles to facilities design and management.

### Summary of Degree Units

University Graduation Requirements 27

Major Preparation 26

Major Core Requirements 21

Concentration Requirements 30

Technical Elective 1

Minor Requirements 15

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses in the Preparation and Required in the Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better".

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (27 units)

## Core Lower Division General Education (18 units)

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (26 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- TECH 30 - Introduction to Python Programming 3 *unit(s)*
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4) (*MATH 30 or MATH 30X may be used in lieu of MATH 71*)
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)

## Complete One Sequence From:

### Physics A

- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

### Physics B

- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3) (*Students may use PHYS 2B instead of PHYS 51*)

## Major Requirements (52 units)

Additional requirement for graduation: To qualify for a baccalaureate degree in Industrial Technology with a concentration in Manufacturing, students must earn a grade of "C-" or better in each major and preparation courses.

## Core (21 units)

- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- TECH 60 - Introduction to Electronics 3 *unit(s)*
- TECH 65 - Introduction to Networks 3 *unit(s)*
- TECH 145 - Lean Manufacturing 3 *unit(s)*
- TECH 190A - Senior Project I 3 *unit(s)*
- TECH 190B - Senior Project II 3 *unit(s)*
- TECH 198 - Technology and Civilization 3 *unit(s)* (V)

## Manufacturing Systems Concentration (30 units)

- TECH 20A - Computer-Aided-Graphics 2 *unit(s)*
- TECH 25 - Introduction to Materials Technology 3 *unit(s)*
- TECH 31 - Quality Assurance and Control 3 *unit(s)*
- TECH 41 - Machine Shop Safety 1 *unit(s)*
- TECH 45 - Sustainable Facilities Design & Planning 3 *unit(s)*
- TECH 46 - Machine Operation and Management 3 *unit(s)*
- TECH 115 - Automation and Control 3 *unit(s)*



- TECH 140 - Green & Sustainable Product Design 3 *unit(s)*
- TECH 143 - Polymers and Composites Fabrication Technology 3 *unit(s)*
- TECH 147 - Green Manufacturing Analysis & Management 3 *unit(s)*
- TECH 149 - Computer Integrated Manufacturing Systems 3 *unit(s)*

## Technical Elective (1 unit)

Complete one unit from any advisor approved upper division TECH or ENGR courses

## Business Minor (15 units)

(required for this major)

- BUS5 142 - Total Quality Management 3 *unit(s)*
- BUS3 160 - Fundamentals of Management and Organizational Behavior 3 *unit(s)*

## Complete One Course From:

- BUS1 20 - Financial Accounting 3 *unit(s)*
- BUS1 20N - Survey of Accounting 3 *unit(s)*

## Complete One Course From:

- BUS5 141 - Procurement and Supply Management 3 *unit(s)*
- BUS5 144 - Supply Chain Management 3 *unit(s)*

## Complete One Course From:

- BUS5 140 - Fundamentals of Operations Management 3 *unit(s)*
- BUS5 145 - Global Operations Strategy 3 *unit(s)*

## Total Units Required (120 units)

## Master

### Quality Assurance, MS

- Admissions Requirements
- Requirements for Admission to Candidacy
- Requirements for Graduation
- Master's Requirements (30 units)

The Master of Science in Quality Assurance degree program, offered by the Department of Aviation and Technology, prepares students to perform at the master's level in the areas of Quality Systems development, Six-Sigma quality, and various quality system standards. The program emphasizes the acquisition of theoretical and analytical

techniques in combination with management and communication skills. This program prepares students to earn globally-recognized Six-Sigma Certification through the American Society for Quality (ASQ).

## Admissions Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system. Select the MS, Engineering (Special Session) program option. In the designated Statement of Purpose area, enter "Please redirect my application to the MS, Quality Assurance program." Applicants must meet all university admission requirements. See the Graduate Admissions section for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

### Requirements for Admission to Classified Standing

The Department of Aviation and Technology admits students to the Master of Science in Quality Assurance program in Classified or Conditional Standing. Contact the department or see our admissions materials for specific application deadlines. For admission to classified standing the department requires the following:

1. A baccalaureate degree from an accredited academic institution in a technical or scientific discipline. Individuals from non-technical disciplines who demonstrate exceptional promise may be conditionally admitted to the graduate program;
2. Transcripts from an accredited academic institution which verify a minimum grade point average of 3.0 in the last 60 upper-division university units;
3. Evidence of written and oral communication skills essential to meet the demands of graduate-level study and research. A well-written personal statement is often used for partial verification of these competencies; this statement should discuss the applicant's career plans and make note of how the master's degree will enhance career objectives; and
4. Foreign students must present a TOEFL score of at least 550.

### Requirement for Admission to Conditionally Classified Standing

Applicants from non-technical disciplines may be conditionally admitted to the graduate program pending completion of additional undergraduate course work as prescribed by the program graduate coordinator. Students who are conditionally classified may seek admission to classified standing only after completion of nine units of graduate-level course work with a minimum grade point average of 3.0. The individual admission letter will explain required terms and conditions for attaining Classified standing.

### Requirements for Admission to Candidacy

General university requirements for advancement to candidacy for the Master of Science degree are outlined in the Academic Regulations section of this catalog. After successfully completing a minimum of 12 graduate units, with a

minimum grade point average of 3.0, and satisfied the university GVAR, students must finalize their programs of study with the guidance of the Program's Graduate Advisor.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GVAR) as a condition for advancement to candidacy. Successfully passing TECH 200 course meets the GVAR requirement.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GVAR).

### Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience. Both options require a précis presentation prior to the submission of the graduate proposal (TECH 298 or TECH 299). Each précis shall include the following: An introduction, a literature review, a statement of the problem, research questions or hypothesis, and a methodology. Students must arrange the date of the précis presentation with the graduate coordinator and with reference to the program Deadlines and Due Dates sheet.

#### Plan A (Thesis)

Students opting to complete a thesis enroll in three units of TECH 299. They must secure the commitment of three faculty members of the department, college or university, two of whom must be members of the faculty (permanent or part-time), to serve as members of the student's Plan A (thesis) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis proposal for the master's degree no later than one semester prior to the end of the semester preceding the one in which enrollment in the final thesis course is planned. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, the candidate for the MS degree must successfully pass a final oral defense of the thesis. This include a one-hour professional presentation with applicable slides outlining the worked performed including an introduction, background and review of the relevant previous published literature, methodology, analysis/experiment/simulation, results and discussion, followed by conclusion(s).

#### Plan B (Project)

Students opting to complete a project enroll in three units of TECH 298. They must secure the commitment of three faculty members of the department, college or university, two of whom must be members of the faculty (permanent or

part-time), to serve as members of the student's Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's project proposal for the master's degree no later than one semester prior to the end of the semester preceding the one in which enrollment in the final project course is planned. The project, will include original research on a topic approved by the project committee. It will undergo a thorough review and revision process under the guidance of the candidate's project committee chair and with the assistance of the committee members. In addition, the candidate for the MS degree must successfully pass a final oral defense of the project. This include a one-hour professional presentation with applicable slides outlining the worked performed including an introduction, background and review of the relevant previous published literature, methodology, analysis/ experiment/simulation, results and discussion, followed by conclusion(s).

## Master's Requirements (30 units)

### Required Courses (24 units)

- TECH 200 - Research Methods for Engineering and Technology *3 unit(s)*
- TECH 230 - Six-Sigma and Continuous Improvement Systems Management *3 unit(s)*
- TECH 231 - Systems Reliability and Maintainability *3 unit(s)*
- TECH 232 - Advanced Statistical Process Control *3 unit(s)*
- TECH 233 - Design and Analysis of Experiments *3 unit(s)*
- TECH 234 - Quality Systems Management: ISO 9000 and 14000 *3 unit(s)*
- TECH 235 - Measurement Systems and Analysis *3 unit(s)*
- TECH 239 - Design Assurance in Product Development *3 unit(s)*

### Approved Electives (3 units)

- Three units electives selected in consultation with the graduate advisor *0 unit(s)*

### Culminating Experience (3 units)

#### Complete One Option (Plan A or Plan B):

#### Plan A (Thesis)

- TECH 299 - Master's Thesis *2-6 unit(s) (3 units required)*

#### Plan B (Project)

- TECH 298 - Graduate Project *2-4 unit(s) (3 units required)*

### Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Aviation Minor

A minor in aviation is granted upon the completion of a coherent course of study and may be designed to fit the needs of a student from another major. The minor must include at least 12 units, six of which must be upper division. Six units must be completed in residence. Contact the department office (IS 111) for more details.

### Electronics Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (12 units)

##### Required Courses (6 units)

Complete Two Courses From:

- TECH 60 - Introduction to Electronics 3 *unit(s)*
- TECH 62 - Analog Circuits 3 *unit(s)*
- TECH 63 - Analog and Digital Circuits 3 *unit(s)*

##### Other Courses (6 units)

Complete six units from:

- TECH 115 - Automation and Control 3 *unit(s)*
- TECH 163 - Telecommunications Systems 3 *unit(s)*
- TECH 165 - Wireless Communications Technologies 3 *unit(s)*
- TECH 167 - Control Systems 3 *unit(s)*

#### Total Units Required (12 units)

### Industrial Technology Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

##### Required Courses (9 units)

- TECH 31 - Quality Assurance and Control 3 *unit(s)*
- TECH 145 - Lean Manufacturing 3 *unit(s)*
- TECH 198 - Technology and Civilization 3 *unit(s)* (V)

## Other Courses (9 units)

At least 9 units of technical courses chosen from either the Industrial Technology, BS core or the Computer Network System Management or Manufacturing Systems concentrations (a maximum of 6 units of lower division courses).

## Total Units Required (18 units)

# Manufacturing Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (12 units)

### Required Courses (3 units)

- TECH 46 - Machine Operation and Management 3 *unit(s)*

### Manufacturing Electives (9 units)

Complete nine units from:

*At least six units must be upper division*

- TECH 41 - Machine Shop Safety 1 *unit(s)*
- TECH 45 - Sustainable Facilities Design & Planning 3 *unit(s)*
- TECH 140 - Green & Sustainable Product Design 3 *unit(s)*
- TECH 145 - Lean Manufacturing 3 *unit(s)*
- TECH 147 - Green Manufacturing Analysis & Management 3 *unit(s)*

## Total Units Required (12 units)

*AVIA 1 - Introduction to the Aviation Industry*

3 *unit(s)*

Career planning, paths, and opportunities within the aviation industry. Concepts and knowledge building blocks for any aviation professional, including: history of aviation; qualifications and privileges of aviation professionals; basics of aeronautics.

**Grading:** Graded

*AVIA 2 - Private Pilot Ground*

3 unit(s)

Foundational concepts of aviation studies for professional pilots. Ground course for private pilot FAA certification. Aeronautics basics, weather, visual navigation, regulations, and operational environment for conducting flights under visual flight rules.

**Pre/Corequisite(s):** AVIA 1

**Grading:** Graded

*AVIA 3 - Introduction to Private Pilot Part 141 Flight*

2 unit(s)

This course covers the FAA requirements leading up to the award of the FAA Private Pilot Certificate. The course consists of flight training segments in an FAA-approved FAR part 141 flight training program.

**Prerequisite(s):** AVIA 2

**Grading:** Credit/No Credit

*AVIA 31 - Aircraft Theory and Design*

3 unit(s)

Aerodynamics and aeroelastics force. Load analysis of flight vehicles. Aircraft design optimization, material selection along with, safe-life, fail-safe and damage tolerance in design.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** AVIA 2, PHYS 2A, MATH 71 or MATH 71X.

**Pre/Corequisite(s):** PHYS 2B.

**Grading:** Graded

*AVIA 42 - Aircraft Systems*

3 unit(s)

Operational and analytical aspects of key aircraft systems such as propulsion, flight control, electrical, and hydraulic. Reliability and maintainability concepts related to the design of aircraft systems. Emphasis is placed on general aviation aircraft.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** AVIA 1 or AVIA 2, PHYS 2A.

**Pre/Corequisite(s):** PHYS 2B

**Grading:** Graded

*AVIA 43 - Propulsion Theory*

3 unit(s)

Propulsion theory of piston engines. Aircraft fuel systems and components. Fundamental systems, maintainability, and reliability methods. Aviation regulations related to engines. Maintenance cycles for engines and components.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** AVIA 1 or AVIA 2 , PHYS 2A.

**Pre/Corequisite(s):** PHYS 2B.

**Grading:** Graded

*AVIA 62 - Instrument Pilot Ground*

*3 unit(s)*

Flight procedures, radio navigation, air traffic control, use of instrument charts. Flight simulator exercises on instrument flight maneuvers, departure and approach procedures.

**Prerequisite(s):** AVIA 2.

**Grading:** Graded

*AVIA 63 - Instrument Rating Part 141 Flight*

*2 unit(s)*

This course covers the FAA requirements leading up to the award of the FAA Instrument Rating Certificate. The course consists of 29 instrument flight training segments in an FAA approved FAR part 141 instrument flight training program.

**Prerequisite(s):** AVIA 3 or FAA Private Pilot Certificate, AVIA 73

**Grading:** Credit/No Credit

*AVIA 68 - Avionics and Airborne Communication*

*3 unit(s)*

Communications and navigation systems installed on a typical general aviation aircraft. History of avionics. Laboratory exercises will include field-testing and airworthiness evaluation.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Pre/Corequisite(s):** AVIA 42.

**Grading:** Graded

*AVIA 73 - Air Traffic Control*

*3 unit(s)*

Air Traffic Control System Structure and Communications. Current configuration and future design of the National Airspace System. Oceanic and International Air Traffic Control. Automation issues and Emerging Technologies.

**Prerequisite(s):** AVIA 1 or AVIA 2.

**Grading:** Graded

*AVIA 78 - Introduction to Aviation Management*

*3 unit(s)*

History and fundamentals of aviation management. Pilot relations to Fixed Base Operators (FBOs). Overview of aviation human resources; basics of aviation maintenance and risk management. Basic financial management analysis.

**Grading:** Graded



*AVIA 91 - Aircraft Turbine Engines*

3 unit(s)

A study of gas turbine fundamentals, including various gas turbine cycles, components and component efficiency, thrust, specific fuel consumption, duct flow and inlet diffuser, centrifugal and axial compressors, combustion chambers and jet nozzles for aircraft propulsion.

**Prerequisite(s):** AVIA 43.

**Grading:** Graded

*AVIA 110 - Aviation Meteorology*

3 unit(s)

Introduction to meteorology with emphasis on aviation applications. Causes of weather, characteristics of common weather phenomena and climatology. Aviation weather resources and reporting, and weather briefings in relation to visual and instrument meteorological conditions for flying

**Grading:** Graded

*AVIA 112 - Commercial Pilot Ground*

3 unit(s)

Material necessary for the FAA requirements leading up to the award of the FAA Commercial Pilot Certificate. Formatted as a ground school and covers the aeronautical knowledge requirements for the Commercial Pilot Knowledge Test.

**Prerequisite(s):** AVIA 31, AVIA 42, and AVIA 91.

**Grading:** Graded

*AVIA 113 - Commercial Professional Pilot Part 141 Flight*

2 unit(s)

This course covers the FAA requirements leading up to the award of the FAA Commercial Pilot Certificate. The course consists of 58 flight training segments in an FAA approved FAR part 141 flight training program.

**Prerequisite(s):** FAA Private Pilot Certificate

**Corequisite(s):** AVIA 112

**Grading:** Credit/No Credit

*AVIA 128 - Aviation Safety and Security*

3 unit(s)

Safety in aviation design, operation, and maintenance; hazardous materials; airport environment issues; security regulations for aviation.

**Prerequisite(s):** AVIA 1 or AVIA 2.

**Grading:** Graded

*AVIA 141 - Human Factors in the Aviation Environment*

3 unit(s)

Effects of time zone changes, sleep disruption, drugs on pilot performance. Role of FAA inspectors, physicians, cabin

attendants, unions. Cockpit crew coordination; pilot psychology; aviation safety and accident investigation. Experimental avionics.

**Prerequisite(s):** Sophomore or Upper division standing.  
**Grading:** Graded

**Note(s):** Not an elective in most department majors.

*AVIA 150 - Unmanned Aerial Systems*

3 unit(s)

Introduction to Unmanned Aerial Systems (UAS). Overview of UAS classes and typical UAS missions. Application of sensors/payload analysis, basic design concepts, current regulations in the U.S., and mishaps examination.

**Prerequisite(s):** AVIA 31 or Instructor Consent  
**Grading:** Graded

*AVIA 173 - Aviation Law*

3 unit(s)

Law and legal issues in aviation from both a national and international perspective. Rights and responsibilities of individuals, organizations, and the aviation community. Regulations and liability pertaining to the design, manufacture, operation and maintenance of aircraft.

**Prerequisite(s):** AVIA 78.  
**Grading:** Graded

*AVIA 176 - Airline Operations and Management*

3 unit(s)

Aspects of managing air transportation companies. Integration of technical, environmental, market and regulatory considerations in the decision-making process in airline management. Future planning techniques.

**Prerequisite(s):** AVIA 78  
**Grading:** Graded

*AVIA 177 - General Aviation Operations and Management*

3 unit(s)

Aspects of managing general aviation companies, such as the structure of the general aviation industry, supply and demand of products, and technical and regulatory constraints.

**Prerequisite(s):** AVIA 1 or AVIA 2.  
**Grading:** Graded

*AVIA 178 - Airport Planning and Management*

3 unit(s)

Design, planning, and management of airports in the US including airport development and airport design. Legal responsibilities as an airport manager. Issues and regulations applicable to airport planning and management.

**Prerequisite(s):** AVIA 78.

**Grading:** Graded

*AVIA 179 - Advanced Airport Planning and Management*

*3 unit(s)*

Noise generation and abatement. Leasing and property management including the impact of federal regulations. Concession planning. Use of technology to increase efficiency and security in airports.

**Prerequisite(s):** AVIA 178.

**Grading:** Graded

*AVIA 180 - Individual Studies*

*1-3 unit(s)*

Special topics by arrangement. Course is repeatable for a maximum of 3 units.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Aviation majors or minors after advisor consultation and department chair approval.

**Grading:** Credit/No Credit

*AVIA 180H - Individual Studies*

*1-2 unit(s)*

Individual honors studies by arrangement. Course is repeatable for maximum of 2 units.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Acceptance into Aviation Honors Program.

**Grading:** Credit/No Credit

*AVIA 190 - Senior Capstone Seminar*

*3 unit(s)*

Current industry analysis and career development; leadership skills for an aviation professional. Aviation standard procedures. Ethical principles for Aviation. Student projects related to Aviation major.

**Prerequisite(s):** Graduating senior, major form completed.

**Grading:** Graded

*AVIA 192I - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*AVIA 193 - Aerodynamics*

*3 unit(s)*

Aerodynamic forces involved in an airplane in flight. Fundamental flowing gas, incompressible and compressible flow, Bernoulli's Principles, circulation forces, boundary layer, airfoils, measurement methods, laminar and turbulent flow, force and vortex interactions.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** PHYS 2A, MATH 71 or MATH 71X, AVIA 31.

**Grading:** Graded

*AVIA 194 - Pilot Avionics and General Aviation Systems*

*3 unit(s)*

Operations of avionics as found on modern general aviation aircraft and turboprop/turbofan aircraft. Major systems used on general aviation aircraft including GPS, FMS, navigation systems, fuel systems, hydraulic systems, environmental systems, landing gear.

**Prerequisite(s):** AVIA 42, AVIA 43.

**Grading:** Graded

*AVIA 195 - Internship with the Aviation Industry*

*1-6 unit(s)*

Practical experience with aviation industry under direct supervision of aviation professionals. Experience will relate to air carrier or general aviation aircraft operation/management/maintenance, fixed-based operation management and/or airport operation/management. Course is repeatable for a maximum of 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Junior standing and instructor consent.

**Grading:** Credit/No Credit

*AVIA 197 - Cooperative Education Project*

*3 unit(s)*

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*AVIA 198 - Aviation and Human Civilization*

*3 unit(s)*

Critical analysis of the role of aviation in human civilization focusing on cultures outside the US and how their development impacted US practices. Topics include: aviation early history; impact of aviation on global economy; gender disparity in the field.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

**Grading:** Graded

*AVIA 199A - Special Topics in Aviation Management*

3 unit(s)

Special topics in Aviation Management. Content varies from semester to semester. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*AVIA 199B - Special Topics in Aviation Operations*

3 unit(s)

Special topics in Aviation Operations. Content varies from semester to semester. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*TECH 20A - Computer-Aided-Graphics*

2 unit(s)

Introduction to Computer-Aided-Graphical communication tools. Orthographic projections, section and auxiliary views and dimensioning standards. Development of visualization and technical sketching skills in conjunction with orthographic and pictorial projections. Dimensioning and tolerancing utilizing 2D and 3D commercially available software.

*Misc/Lab: 1 hour lecture and 3 hours lab*

**Grading:** Graded

*TECH 25 - Introduction to Materials Technology*

3 unit(s)

Designed to introduce students to materials used to make consumer and commercial products. Including metals, plastics, and composites. How materials impact our lives and standard of living. Materials selection and the role of experimentation, testing and evaluation procedures.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATH 18A or equivalent.

**Corequisite(s):** CHEM 1A or CHEM 30A or equivalent.

**Grading:** Graded

*TECH 30 - Introduction to Python Programming*

3 unit(s)

Introduction to Python programming, data types, arithmetic and strings, conditional execution, loops, functions, lists and files, exception handling, sets and dictionaries.

**Prerequisite(s):** MATH 71 or MATH 71X or MATH 30 or MATH 30X.

**Grading:** Graded

*TECH 31 - Quality Assurance and Control*

3 unit(s)

Introduction to concepts and statistical methods that companies use to manage and improve quality. Sampling inspection, statistical process control, quality function deployment, cost of quality, design of experiment and Taguchi's method for designing in quality.

**Prerequisite(s):** BUS2 90 or equivalent.

**Grading:** Graded

*TECH 41 - Machine Shop Safety*

1 unit(s)

Introduction to basic machine shop safety and skills. Fabricating of mechanical components and assemblies from engineering drawings, performing tolerance inspection, developing fabrication process plans.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** ME 20, TECH 20A, CE 20 or equivalent.

**Grading:** Graded

*TECH 42 - Manufacturing and Machine Shop Projects and Practices*

1 unit(s)

Individual manufacturing processes and machine shop practices. Fabrication of mechanical components and assemblies in fulfillment of senior, course, special, and approved student club assignments and projects.

*Misc/Lab: 3 hours lab*

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** TECH 41/ME 41 (with grade "C-" or better).

**Grading:** Credit/No Credit

*TECH 45 - Sustainable Facilities Design & Planning*

3 unit(s)

Construction, planning, and maintenance of physical facilities and equipment for sustainable manufacturing operations. Green and sustainable practices and standards, plant facilities layout/design, regulatory and environmental compliance, safety/security and energy conservation. Production line planning and OSHA and NIOSH standards.

**Prerequisite(s):** TECH 20A, CE 20 or equivalent.

**Grading:** Graded

*TECH 46 - Machine Operation and Management*

3 unit(s)

Current machining processes using computer numerically-controlled and manual machines, including turning, milling, drilling, grinding, and sawing machines. Manual and computer-aided part programming. Management of machining environment including processes, tooling, instruments, equipment, personnel safety.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 20A.

**Corequisite(s):** TECH 41.

**Grading:** Graded

*TECH 60 - Introduction to Electronics*

*3 unit(s)*

Emphasizes practical electronics applications and products. DC and AC theory; Ohm's Law, Kirchhoff's Laws, Power Laws, network theorems, schematic diagrams, instrumentation and measurement, and functions of discrete components.

*Lecture 2 hours/lab 3 hours.*

**Pre/Corequisite(s):** MATH 71 or MATH 71X or MATH 30 or MATH 30X or equivalent.

**Grading:** Graded

*TECH 62 - Analog Circuits*

*3 unit(s)*

Semiconductor theory; p-n junction, bipolar transistors, JFETs and MOSFETs, optoelectronic devices. Operational amplifiers and 555 timers. Device applications: comparators, signal generators, active filters, instrumentation amplifiers, voltage regulators and power supplies.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 60, MATH 71 or MATH 71X or MATH 30 or MATH 30X.

**Grading:** Graded

*TECH 63 - Analog and Digital Circuits*

*3 unit(s)*

Logic gates emphasizing TTL and CMOS. Design techniques. Combinational circuits, counters, registers, multiplexers, Semiconductor theory. Operational amplifiers. Device applications, signal generators, voltage regulators and power supplies.

**Prerequisite(s):** TECH 60, MATH 71 MATH 71X or MATH 30 MATH 30X or equivalent.

**Grading:** Graded

**Note(s):** Lecture 2 hours/lab 3 hours.

*TECH 65 - Introduction to Networks*

*3 unit(s)*

Introduction to networks and networking concepts. Network architectures. Network media. Configuring network operating systems. Making networks work. Network topology, standards and protocols. Basic network design.

*Lecture 2 hour/lab 3 hours.*

**Pre/Corequisite(s):** TECH 60.

**Grading:** Graded

*TECH 66 - Network Administration*

3 unit(s)

Internetworking devices and systems. Network Administration and Support. Enterprise and Distributed Networks. Wide-Area and Large Scale Networks. Solving Network problems. Using the Resources of the Internet. Future networking technologies. Telemeter networks. Manufacturing Automation. Systems Networks, Storage area network.

*Misc/Lab: Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** TECH 65.

**Grading:** Graded

*TECH 67 - Introduction to Internet of Things*

3 unit(s)

Introduction to Internet of Things (IoT) fundamentals, development of the knowledge and skills required for related technologies and hands-on, problem-solving experience. Designing and connecting IoT devices to capture data and control the physical world.

*Misc/Lab: Lec 2 hours/Lab 3 hours.*

**Prerequisite(s):** TECH 60, TECH 65.

**Grading:** Graded

*TECH 68 - Internet of Things Systems*

3 unit(s)

Cyber-physical systems as control systems, including problem formulation, mathematical representation, and analysis. IoT system components of switching, routing, security, wireless, virtualization, and their integration into end-to-end IoT systems.

*Misc/Lab: Lec 2 hours/Lab 3 hours*

**Prerequisite(s):** TECH 67.

**Corequisite(s):** CMPE 30.

**Grading:** Graded

*TECH 115 - Automation and Control*

3 unit(s)

Theory and application of automation elements including analog and digital sensors, controllers, indicators, actuators. Control modes for proportional, derivative, and integral control systems. Hands-on integration practices among PLC, robots, automatic identification devices, computers, and other industrial equipment.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 60, PHYS 2A, PHYS 2B, MATH 71 or MATH 71X.

**Grading:** Graded

*TECH 136 - Software Quality Management*



3 unit(s)

Software quality management standard processes and techniques, certification standards. Web programming application. Mobile network applications. Software testing methodology. Role of software quality managers in a computer network system organization.

*Misc/Lab: 2hrs lecture/3hrs lab*

**Prerequisite(s):** CMPE 30, BUS2 90, TECH 173

**Grading:** Graded

*TECH 139 - Quality Management*

3 unit(s)

Planning, designing and managing the performance of quality in an organization. Synthesis, modeling and application of total quality management to case studies in manufacturing and service industries.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 31.

**Grading:** Graded

*TECH 140 - Green & Sustainable Product Design*

3 unit(s)

Advanced product and process design with a focus on green and sustainable design and on manufacturing green products. Analysis of process and material selection for environmental impact. Composite and advanced materials processing. Laboratory exercises and planning for green manufacturing.

*Satisfies Lecture 3 hours/Lab 3 hours.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** TECH 20A; CHEM 1A or CHEM 30B; MATH 71 or MATH 71X or MATH 30 or MATH 30X.

**Grading:** Graded

*TECH 143 - Polymers and Composites Fabrication Technology*

3 unit(s)

Fundamental aspects of modern manufacturing technology using polymeric and composite materials. Hands-on lab exercises in casting, molding, coating, thermoforming and fiber reinforcement. Concepts of design, analysis and fabrication.

*Activity 6 hours.*

**Prerequisite(s):** TECH 20A, CHEM 1A and PHYS 2A.

**Grading:** Graded

*TECH 145 - Lean Manufacturing*

3 unit(s)

Exploration and practice of techniques for reducing waste to optimize the value stream in both manufacturing and non-manufacturing environments. Toyota Production System, Value Stream Mapping, 7 Wastes, 5S, Just-in-Time, TPM, Kaizen.

**Prerequisite(s):** BUS5 140 or BUS5 145 or ISE 140.  
**Grading:** Graded

*TECH 146 - 3D Printing and Applications*

3 unit(s)

Introduction to technologies in 3D printing, equipment, processes, and materials. Applications for a variety of markets and industry in accelerating time to market for products, improving manufacturing operations, and efficiency. Hands-on experience through CAD design to product realization.

**Prerequisite(s):** TECH 20A, TECH 25, TECH 140  
**Grading:** Graded

*TECH 147 - Green Manufacturing Analysis & Management*

3 unit(s)

Design, operation, and control of green production systems using techniques to promote sustainability and minimize environmental impact. Emphasis is on the physical design of high performance manufacturing and will include production flow, scheduling, work flow, layout of manufacturing plants, and material handling.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 45, TECH 46, TECH 115.  
**Pre/Corequisite(s):** TECH 140.  
**Grading:** Graded

*TECH 149 - Computer Integrated Manufacturing Systems*

3 unit(s)

Integration of all aspects of a manufacturing enterprise using computer-integrated manufacturing (CIM) technologies. Design development and implementation of manufacturing systems using project management techniques and team work.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

*Course may be repeated for credit for up to 3 units.*

**Pre/Corequisite(s):** TECH 145, TECH 147.  
**Grading:** Graded

*TECH 163 - Telecommunications Systems*

3 unit(s)

Communication systems. Types of Modulation. Transmitters and receivers. Digital communications. Data transmission. Digital modulation and modems. Multiplexing and multiple-access techniques. Wireless communication systems. Microwave devices. Satellite communications. Fiber optics systems.

**Prerequisite(s):** TECH 62, TECH 63.  
**Grading:** Graded

*TECH 165 - Wireless Communications Technologies*

3 unit(s)

Digital wireless technologies. RF Communications. Wireless Personal Area Networks. Wireless Local Area Networks. Wireless Metropolitan Area Networks. Wireless Satellite Fixed Broadband. Wireless Wide Area Networks. Radio Frequency Identification. Wireless Communication in Business. Emerging wireless technologies

*Misc/Lab: Lecture 3 hour/Lab 3 hours*

**Prerequisite(s):** TECH 63, TECH 65.

**Grading:** Graded

*TECH 167 - Control Systems*

3 unit(s)

Theory and applications of feedback systems, transfer functions and block diagrams. Transducers, analog and digital controllers, signal conditioners and transmission. Analysis, testing, and troubleshooting of electronic systems with feedback.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** TECH 63, TECH 115, and CMPE 30 or CS 49C or CS 49J.

**Grading:** Graded

*TECH 169 - Applied Electronic Design*

3 unit(s)

Design, test, simulation, development and implementation of electronic systems for control of industrial processes using project management techniques and team work. Hardware, software, and system interfacing.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Pre/Corequisite(s):** TECH 167.

**Grading:** Graded

*TECH 170 - Connected Products Applications*

3 unit(s)

Introduction to connected products and applications, defining user (UX) for web and software and UX for Connected Things. Presenting models of human-computer interaction, design processes and product/service definition and strategy. Cases studies of IoT systems and design.

*Misc/Lab: Lec 2 hours/ Lab 3 hours.*

**Prerequisite(s):** TECH 68.

**Grading:** Graded

*TECH 171 - Network Security & Prevention Management*

3 unit(s)

Approaches to IT system security including physical, application, operating system, cyber-, and network security. Using switches, routers, adaptive security appliance, firewalls, and intrusion protection systems to implement comprehensive security policies. IPv4 and IPv6 security, VPN technology.

*Misc/Lab: Lec 2 hours/Lab 3 hours.*

**Prerequisite(s):** TECH 65, TECH 66, TECH 170.

**Grading:** Graded

*TECH 172 - Database Server System Management*

*3 unit(s)*

Practical big data analytics and management systems. Issues and problems involved in massive on-line repository systems. Current practical techniques for satisfying the needs of such systems. Current approaches that are likely to provide a basis for tomorrow's solutions.

*Misc/Lab: Lec 2 hours/Lab 3 hours.*

**Prerequisite(s):** TECH 171, TECH 173, TECH 179.

**Grading:** Graded

*TECH 173 - Cloud Computing System Management*

*3 unit(s)*

Technologies, hardware and software applications in cloud computing. Implementation of cloud computing in the enterprise through exploration of public and private clouds, comparison. Performance monitoring of data traffic flow and process improvement for the required server systems.

**Grading:** Graded

*TECH 174 - Blockchain Technology and Applications*

*3 unit(s)*

Fundamentals and applications of Blockchain Technology; transparent, secure, immutable and distributed database used as the underlying technology for Cryptocurrency. Types of Blockchain and real-life applications for potentially disruptive technology and its impact on business world and society.

**Prerequisite(s):** TECH 30 or instructor consent.

**Grading:** Graded

*TECH 175 - Industrial Internet of Things (IIoT)*

*3 unit(s)*

Techniques to collect and analyze sensor data to maximize industrial systems efficiency through predictive and preventive maintenance, machines monitoring, supply-chain optimization, smart energy, smart grid, big data analytics, smart connected systems, and cyber threats prevention.

**Prerequisite(s):** TECH 30 and TECH 65; or instructor consent.

**Grading:** Graded

*TECH 176 - Machine Learning Technology and Applications*

*3 unit(s)*

Overview of machine learning in computer network systems with emphasis on practical applications focusing on supervised and unsupervised techniques and methods, including classification and clustering. Emphasis on big data analytics and data mining.

**Prerequisite(s):** TECH 30 or instructor consent.

**Grading:** Graded

*TECH 179 - Cyber Security System Management*

3 unit(s)

Key issues associated with protecting information assets. Levels of protection and response to security incidents. Planning for security and management of the system. Application of software, cryptography, encryption methods. Mobile and cloud systems security.

**Grading:** Graded

*TECH 180A - Individual Studies in Electronics and Computer Technology*

1-4 unit(s)

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*TECH 180B - Individual Studies in Manufacturing Technology*

1-4 unit(s)

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*TECH 180H - Individual Studies in Materials Technology*

1-4 unit(s)

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*TECH 180J - Individual Studies in Technology Issues*

1-4 unit(s)

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*TECH 190 - Senior Seminar in Technology*

3 unit(s)

Current industry analysis and career development. Technology trends in manufacturing and electronics. Leadership skills for a technology professional. Ethics for technology managers.

**Prerequisite(s):** Graduating senior, major form completed.

**Grading:** Graded

*TECH 190A - Senior Project I*

3 unit(s)

Half of one-year senior team design projects. Professional Development and Proposal preparation with feasibility plans, specifications, oral/written reports, and career and professional seminar participation. Project proceeds over two semesters from problem definition and design to validation, prototype construction, and testing.

**Prerequisite(s):** Completion of major lower division requirements, senior standing, and consent of instructor.  
**Grading:** Graded

*TECH 190B - Senior Project II*

3 unit(s)

Second half of a one-year team project carried out under faculty supervision. Review, construction, testing, and evaluation of the design from TECH 190A culminating in demonstrations and written and oral presentations to faculty and peers.

**Prerequisite(s):** TECH 190A with a C or better  
**Grading:** Graded

*TECH 192 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*TECH 195 - Cooperative Internship*

1-3 unit(s)

Provides an educational strategy that links classroom learning and student interest with the acquisition of knowledge in an applied work setting. Students undertake a significant experiential learning opportunity, typically with a company, non-profit, governmental, or community-based organization.

**Prerequisite(s):** Upper division standing, course contract, instructor consent  
**Grading:** Credit/No Credit

*TECH 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.  
**Grading:** Graded

*TECH 198 - Technology and Civilization*

3 unit(s)

History, development, and use of technology in different cultures. Technology's impact on society, global environment, the workplace, cultural values, gender roles, and newly industrialized countries of the world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*TECH 199A - Special Topics in Electronics & Cmp Tech*

3 unit(s)

Fundamentals of being a successful college student on the path to a profession in Industrial Technology. Hands-on project oriented course with applications in manufacturing systems, robotics, plant operation, materials and handling, computer network systems, IoT, and internet hardware. Guest speakers and tours of related industries.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*TECH 199B - Special Topics in Manufacturing Systems*

3 unit(s)

Special topics in Manufacturing Systems. Content varies from semester to semester. Repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*TECH 200 - Research Methods for Engineering and Technology*

3 unit(s)

Current applied research methods applied to problems in engineering, technology, and other technical fields. Exposure to current literature, scientific/technological research ethics, research and experimental design and methods, skills in research proposal development and locating funding.

**Prerequisite(s):** STAT 115 (or equivalent) and graduate standing.

**Grading:** Graded

*TECH 230 - Six-Sigma and Continuous Improvement Systems Management*

3 unit(s)

Six-Sigma quality systems for design production and business processes. Statistical foundations, implementation strategies, and practical industrial applications. Methods and practices of achieving continuous quality improvement, defect reduction, project planning and management methods to achieve universal participation in process improvement.

**Prerequisite(s):** STAT 115 or equivalent.

**Grading:** Graded

*TECH 231 - Systems Reliability and Maintainability*

3 unit(s)

Analysis of models for systems reliability including static, dynamic, and probabilistic engineering models; reliability estimation and optimization, life cycle prediction techniques; failure modes and effects analysis; maintainability prediction and analysis.

**Prerequisite(s):** TECH 230.

**Grading:** Graded

*TECH 232 - Advanced Statistical Process Control*

3 unit(s)

Analysis of advanced statistical process control (SPC) systems for monitoring and controlling process performance. Statistical methods for sample selection, probability theory, partition of variation, blanket studies, out-of-control action plans, process capability measurement, and SPC implementation strategies and analysis.

**Prerequisite(s):** STAT 115.

**Grading:** Graded

*TECH 233 - Design and Analysis of Experiments*

3 unit(s)

Analysis of experimental design strategies for process and design improvement. Industrial application of single factor, multi-factor, and optimization designs. Experimental analysis using t-tests, ANOVA, Chi-square, linear and multiple regression techniques. Model building and model validation.

**Pre/Corequisite(s):** TECH 232.

**Grading:** Graded

*TECH 234 - Quality Systems Management: ISO 9000 and 14000*

3 unit(s)

Strategies for developing and implementing ISO standards: Project management and planning, cost estimation, supply chain management, audit plans and documentation systems for ISO system compliance. Analysis of ISO 9000 and 14000 quality systems for product design, development and production.

**Grading:** Graded

*TECH 235 - Measurement Systems and Analysis*

3 unit(s)

Analysis of variables and attributes methods for measurement systems analysis and control including; repeatability, reproducibility, accuracy, linearity and stability. A survey of measurement and testing systems; dimensional metrology, destructive and nondestructive testing, calibration methods, and inspection equipment and techniques.

**Prerequisite(s):** TECH 232.

**Grading:** Graded

*TECH 239 - Design Assurance in Product Development*

3 unit(s)

Analysis of product development strategies, understanding design constraints and market conditions, design and configuration control systems, documentation and revision control systems, design for manufacturability, phase review approaches for new product introduction, design reviews, and developing and maintaining design guidelines.

**Prerequisite(s):** TECH 200, TECH 230 and TECH 234.

**Grading:** Graded

*TECH 290 - Graduate Problems*



2-4 unit(s)

Graduate study or research of technical problems.

**Prerequisite(s):** TECH 200 and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*TECH 298 - Graduate Project*

2-4 unit(s)

Graduate study research of professional problems.

**Prerequisite(s):** Admission to candidacy for the master's degree and instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*TECH 299 - Master's Thesis*

2-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree and instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*TECH 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Biomedical Engineering

**Office:** Engineering Building 233

**Telephone:** 408-924-3409

**Email:** [biomedical-engineering@sjsu.edu](mailto:biomedical-engineering@sjsu.edu)

**Website:** [sjsu.edu/bme](http://sjsu.edu/bme)

### Professors

Guna S. Selvaduray, Chair

### Assistant Professors

Alessandro Bellofiore

Folarin Erogbogbo

Patrick Journey

Matthew Leineweber  
Melinda Simon

## Overview

Biomedical engineering is an inherently interdisciplinary field that lies at the intersection of engineering and the biological and health sciences. Biomedical engineers use the principles of engineering to develop solutions for a wide variety of products and technologies that improve the quality of life. Students majoring in biomedical engineering will have the satisfaction of being actively engaged in a discipline that has human health and welfare as its primary focus.

The mission of the Biomedical Engineering Department is to be a recognized leader in translational biomedical research; to provide hands-on education focused on solving real world biomedical problems; and to foster innovation and entrepreneurship in the service of human well-being.

The BS and MS Biomedical Engineering programs have been designed, in consultation with potential employers, to prepare graduates for the wide variety of emerging careers in biomedical devices, bioelectronics and instrumentation, imaging, bioinformatics, and manufacturing, among others. The coursework prepares students to function effectively in a U.S. Food & Drug Administration-regulated environment. These programs also promote the development of soft skills, such as oral and written communication, and team work, that are necessary for professional success and lifelong learning in the global marketplace. The ability to address and deal with ethical issues, which are of paramount importance in biomedical engineering, is also cultivated, and communications skills are integrated into the classes throughout the curriculum.

In addition to BS and MS degrees in biomedical engineering, we offer an undergraduate minor in biomedical engineering, appropriate for students pursuing other fields of study but still interested in applications in biomedical engineering. The BS Biomedical Engineering program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## Undergraduate

### Biomedical Engineering, BS

- Department of Biomedical Engineering
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	15
Major Preparation	45
Major Requirements	54
Technical Electives	6
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your academic advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

## Major-Specific Graduation Requirements

All courses required in the major, including all electives, must be completed with a grade of C- or better. This includes all courses in the following sections: Preparation for the Major, Requirements of the Major Core Courses, Biomedical Engineering Required Courses. Note that ENGR 100W, BME 198A, BME 198B, ENGR 195A, AND ENGR 195B must be completed with a grade of C or better.

## Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (15 units)

### Core Lower Division General Education (3 units)

Of the 39 units required by the university, 36 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (45 units)

- BIOL 30 - Principles of Biology I 4 unit(s) (B2+B3)
- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- CHEM 1B - General Chemistry 5 unit(s) (B1+B3)
- CHEM 8 - Organic Chemistry 3 unit(s)
- CHEM 9 - Organic Chemistry Lab 1 unit(s)
- ENGL 1A - First Year Writing 3 unit(s) (A2)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)

## Differential Equations (3 units)

Complete one course:

- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 unit(s)
- MATH 33LA - Differential Equations and Linear Algebra 3 unit(s) also accepted.

## Major Requirements (60 units)

### Core Courses (14 units)

- BME 25 - Introduction to Biomedical Engineering Design 3 unit(s)
- BME 65 - Biomedical Applications of Statics 2 unit(s) (CE 95 or CE 99 also accepted)
- EE 98 - Introduction to Circuit Analysis 3 unit(s)
- ENGR 10 - Introduction to Engineering 3 unit(s) (E)
- ENGR 100W - Engineering Reports 3 unit(s) (Z+R)

## Biomedical Engineering Required Courses (40 units)

*Must take BME 198A/BME 198B and ENGR 195A/ENGR 195B to meet GE Area S and V requirements*

- BME 68 - Biomedical Applications of Metals and Ceramics 3 unit(s) (MATE 25 also accepted)

- BME 115 - Foundations of Biomedical Engineering *4 unit(s)*
- BME 117 - Biotransport Phenomena *3 unit(s)*
- BME 130 - Numerical Methods in Biomedical Engineering *3 unit(s)*
- BME 133 - Programming Applications in Biomedical Engineering *1 unit(s)*
- BME 135 - Biomedical Engineering Design Methods *2 unit(s)*
- BME 147 - Quantitative Methods for BME *3 unit(s)*
- BME 165 - Applied Engineering Biomechanics *3 unit(s)*
- BME 168 - Medical and Biological Polymers *3 unit(s)*
- BME 174 - Biomedical Regulatory Requirements *3 unit(s)*
- BME 177 - Physiology for Engineers *3 unit(s)*
- BME 178 - Biomedical Product Realization *3 unit(s)*
- BME 198A - Senior Design Project I *2 unit(s) (S)*
- BME 198B - Senior Design Project II *2 unit(s) (V)*
- ENGR 195A - Global and Social Issues in Engineering *1 unit(s) (S)*
- ENGR 195B - Global and Social Issues in Engineering *1 unit(s) (V)*

### Technical Major Electives (6 units)

Electives must be selected from the approved departmental list in consultation with the student's academic advisor.

### Total Units Required (120 units)

## Master

### Biomedical Engineering, Biomedical Devices Concentration, MS

The concentration in Biomedical Devices, offered by the Department of Biomedical Engineering, offers the student the opportunity to focus on the design, development and manufacture of medical devices that either come into contact with the human body or are implanted within the human body. This concentration area has been created to provide individuals with B.S. degrees in an engineering field or chemistry or physics with the necessary graduate level education that prepares them to function effectively in this environment.

## Requirements for Admission

Applicants must meet all university admission requirements. Applicants who have a major GPA of 3.0 or higher are not required to take the GRE. All others must take the GRE General Test and obtain a combined score of 315 or higher in the Verbal and Quantitative sections, and 3.5 or higher in the Analytical Writing section.

Students can be admitted to either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a BS degree in biomedical engineering, or its equivalent from an accredited institution with a grade point average of 3.0 or better in the last 60 semester units, have met the GRE requirement if their major GPA is below 3.0, and have completed any required Transition Courses, or their equivalents, with grades of B or better.

## Conditionally Classified Admission

Students can be admitted to conditionally classified standing if they have a BS degree in an engineering discipline, chemistry, physics or biology from an accredited institution. Students with conditionally classified standing will be required to take one or more of the Transition Courses shown below, in addition to the 30 units required for the Biomedical Engineering, MS degree. Once the required transition courses are completed satisfactorily (with a grade of B or better), students can petition for transfer to classified standing.

## Advancement to Candidacy

Students must meet the university requirements for candidacy, which include successful completion of a minimum of 9 units of graduate level classes with grades of B or better. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy.

## Course Requirements

To meet the requirements for the MS, Biomedical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum grade of a "C" in each course, a cumulative GPA of 3.0 or better in **all** their coursework, AND a GPA of 3.0 or higher for the courses listed in the Candidacy form.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see Graduation Writing Assessment Requirement (GWAR). The GWAR is satisfied in the degree requirements core courses (BME 207, BME 274).

## Culminating Experience

Included in the 30 units of approved courses is the requirement that students must also complete a written thesis or project report and an oral defense of their thesis or project. The candidate may choose either the Plan A (thesis) or Plan B (project) option.

### Plan A (Thesis)

Please see the "Plan A (Thesis)" description under the requirements for the Biomedical Engineering, MS degree.

### Plan B (Project)

Please see the "Plan A (Thesis)" description under the requirements for the Biomedical Engineering, MS degree.

## Masters Requirements (30 units)

### Core Courses (16 units)

- BME 177 - Physiology for Engineers 3 *unit(s)*
- BME 207 - Experimental Methods in BME 3 *unit(s)* (GWAR)

- BME 210 - Mathematical Methods in Biomedical Engineering 3 *unit(s)*
- BME 272 - Biomedical Device Design and Principles 3 *unit(s)*
- BME 274 - Regulatory, Clinical and Manufacturing Aspects of Medical Devices 3 *unit(s)* (GWAR)
- BME 291 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

### Concentration Requirements (9 units)

- BME 168 - Medical and Biological Polymers 3 *unit(s)*
- BME 254 - Microscale Biomedical Systems: Physics and Applications 3 *unit(s)*
- ME 267 - Engineering Biomechanics 3 *unit(s)*

### Electives (0-3 units)

Complete 0-3 units:

- BME 217 - Experimental and Computational Biofluid Mechanics 3 *unit(s)*
- BME 254 - Microscale Biomedical Systems: Physics and Applications 3 *unit(s)*
- BME 256 - Biomedical Applications of Nanoplatfroms 3 *unit(s)*
- BME 258 - Medical Imaging for Engineers 3 *unit(s)*
- BME 288 - Tissue Engineering 3 *unit(s)*

### Culminating Experience (2-5 units)

#### Plan A (Thesis Option) (5 units)

- BME 298 - MS Project 2 *unit(s)* **or**
- BME 298I - Masters Project Internship 1-2 *unit(s)*  
**and**
- BME 299 - MS Thesis 3 *unit(s)* **or**
- BME 299I - Master's Thesis Internship 1-3 *unit(s)*

#### Plan B (Project Option) (2 units)

- BME 298I - Masters Project Internship 1-2 *unit(s)*
- BME 298 - MS Project 2 *unit(s)* **or**

### Total Units Required (30 units)

## Biomedical Engineering, MS

Students pursuing the MS, Biomedical Engineering degree, offered by the Department of Biomedical Engineering, will have the satisfaction of being actively engaged in a discipline that has human health and welfare as its primary focus. Biomedical Engineering is an inherently interdisciplinary field in which professionals from engineering and the physical sciences play a major role in developing engineered products for deployment in the human body.

# Program Objectives

The MS, Biomedical Engineering program incorporates and develops oral and written communication skills, teamwork, and the ability to address and deal with ethical issues, all of which are essential for professional success in the global marketplace and for lifelong learning. The MS, Biomedical Engineering program is designed to produce graduates who will be able to:

- Solve complex biomedical engineering problems and tasks in areas including design, manufacturing, and quality control.
- Use engineering, science, and relevant regulations to justify recommendations.
- Evaluate the impact of their work on their fellow human beings and society as expressed through regulatory, ethical, economic, global and environmental considerations.
- Deliver effective presentations of biomedical engineering results in written and oral formats.
- Engage in lifelong self-directed learning to maintain and enhance professional skills and capabilities and keep abreast of the rapid developments in biomedical engineering and science.
- Be effective leaders capable of working in diverse environments and teams, in a globally competitive landscape.

# Requirements for Admission

Applicants must meet all university admissions requirements. Applicants who have a major GPA of 3.0 or higher are not required to take the GRE. All others must take the GRE General Test and obtain a combined score of 315 or higher in the Verbal and Quantitative sections, and 3.5 or higher in the Analytical Writing section.

Students can be admitted to either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a BS degree in biomedical engineering, or its equivalent from an accredited institution with a grade point average of 3.0 or better in the last 60 semester units, have met the GRE requirement if their major GPA is below 3.0; and have completed the Transition Courses, or their equivalents, with grades of B or better.

# Conditionally Classified Admission

Students can be admitted to conditionally classified standing if they have a BS degree in an engineering discipline, chemistry, physics, or biology from an accredited institution. Students with conditionally classified standing will take a series of Transition Courses, as determined by the Graduate Coordinator. Once the series is completed satisfactorily, with grades of B or better, students can petition for transfer to classified standing. For more information on the transition courses contact the Biomedical Engineering Graduate Coordinator at [biomedical-engineering@sjsu.edu](mailto:biomedical-engineering@sjsu.edu).

# Advancement to Candidacy

Students must meet the university requirements for candidacy, which include successful completion of a minimum of 9 units of graduate-level classes with grades of B or better. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy.

# Course Requirements



To meet the requirements for the MS, Biomedical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course, a cumulative GPA of 3.0 or better in all their coursework, AND a GPA of 3.0 or higher for the courses listed in the Candidacy form.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). The GWAR is satisfied in the degree requirements core courses (BME 207, BME 274).

## Culminating Experience

Included in the 30 approved course units is the requirement that students must also complete a written thesis or project report and an oral defense of their thesis or project. The candidate may choose either the Plan A (Thesis) or Plan B (Project) option. For either option, the student is required to develop a project proposal in BME 291. This must be approved by the student's reading committee at the culmination of this course. Once the proposal is approved, the student is required to:

1. implement the approved research plan using appropriate methods for the investigation,
2. use appropriate statistical techniques for analysis of the data and drawing conclusions,
3. discuss the results in light of findings reported by other investigators,
4. write a professional report of appropriate length, and
5. present it and defend the project to the reading committee.

### Plan A (Thesis)

The student who opts to complete a master's thesis is responsible for securing the commitment of a full-time tenured or tenure-track BME faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve on the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass BME 291 - MS Thesis/Project Preparation Seminar (1 unit) and BME 298 - MS Project (2 units) or BME 291 - MS Thesis/Project Preparation Seminar before enrolling in the 3-unit BME 299 - MS Thesis or BME 299I. The thesis must also meet all university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (Project)

Students opting to complete a master's project must pass BME 291 - MS Thesis/Project Preparation Seminar (1 unit) before enrolling in the 2-unit BME 298 - MS Project or BME 298I (2 units).

The project proposal is prepared in BME 291 and must be approved by the student's reading committee at the culmination of that course.

## Master's Preparation

Students may be required to complete some or all of the following transition courses (or equivalent courses) prior to being admitted to Classified Standing in the major.

## Transition Courses

- BME 65 - Biomedical Applications of Statics 2 *unit(s)*

*CE 95 and CE 99 also accepted.*

- BME 68 - Biomedical Applications of Metals and Ceramics 3 *unit(s)*  
*MATE 25 also accepted.*
- BME 115 - Foundations of Biomedical Engineering 4 *unit(s)*
- BME 147 - Quantitative Methods for BME 3 *unit(s)*
- BME 165 - Applied Engineering Biomechanics 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- EE 98 - Introduction to Circuit Analysis 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

Complete one course (3 units):

- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*
- MATH 33LA - Differential Equations and Linear Algebra 3 *unit(s)*

Master's Requirements (30 units)

Core Courses (16 units)

- BME 177 - Physiology for Engineers 3 *unit(s)*
- BME 207 - Experimental Methods in BME 3 *unit(s)* (GWAR)
- BME 210 - Mathematical Methods in Biomedical Engineering 3 *unit(s)*
- BME 272 - Biomedical Device Design and Principles 3 *unit(s)*
- BME 274 - Regulatory, Clinical and Manufacturing Aspects of Medical Devices 3 *unit(s)* (GWAR)
- BME 291 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

Biomedical Engineering Electives (9-12 units)

Complete 9-12 units:

- BME 117 - Biotransport Phenomena 3 *unit(s)*
- BME 168 - Medical and Biological Polymers 3 *unit(s)*
- BME 217 - Experimental and Computational Biofluid Mechanics 3 *unit(s)*
- BME 254 - Microscale Biomedical Systems: Physics and Applications 3 *unit(s)*
- BME 256 - Biomedical Applications of Nanoplatfroms 3 *unit(s)*
- BME 258 - Medical Imaging for Engineers 3 *unit(s)*
- BME 288 - Tissue Engineering 3 *unit(s)*
- EE 127 - Electronics for Biomedical Applications 3 *unit(s)*
- ME 267 - Engineering Biomechanics 3 *unit(s)*
- Other approved electives

Culminating Experience (2-5 units)

Plan A (Thesis Option) (5 units)

- BME 298 - MS Project 2 *unit(s)* **or**
- BME 298I - Masters Project Internship 1-2 *unit(s)*  
**and**
- BME 299 - MS Thesis 3 *unit(s)* **or**
- BME 299I - Master's Thesis Internship 1-3 *unit(s)*

### Plan B (Project Option) (2 units)

- BME 298 - MS Project 2 *unit(s)* **or**
- BME 298I - Masters Project Internship 1-2 *unit(s)*

### Total Units Required (30 units)

## Minor

### Biomedical Engineering Minor

Students must complete a minimum of 13 units as listed under the course requirements. All of these units must be outside the requirements for the student's major, i.e., the same courses cannot be listed both on the minor and the major forms. BME 115 (4 units) and BME 177 (3 units) are required for all students taking this minor. In consultation with the Biomedical Engineering advisor, students must select two additional courses from the group of biomedical engineering-based courses. It is the student's responsibility to make sure that the prerequisites for each course are met. Students in majors other than engineering, biology, chemistry or physics will probably need to take additional courses to meet prerequisites for the courses required for this minor. This sequence of courses is the recommended pattern for engineering majors. Alternative patterns may be approved by the biomedical engineering advisor for students majoring in biology, physics or chemistry.

Interested students are encouraged to meet with a BME Department Adviser to fill out the Biomedical Engineering Minor form {<http://www.sjsu.edu/bcme/docs/BME%20Minor%20Form%20-%20Fall%202017.xlsx>}.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (13 units)

- BME 115 - Foundations of Biomedical Engineering 4 *unit(s)*
- BME 177 - Physiology for Engineers 3 *unit(s)*

#### Complete Two Courses From:

- BME 68 - Biomedical Applications of Metals and Ceramics 3 *unit(s)*
- BME 117 - Biotransport Phenomena 3 *unit(s)*
- BME 147 - Quantitative Methods for BME 3 *unit(s)*
- BME 165 - Applied Engineering Biomechanics 3 *unit(s)*
- BME 168 - Medical and Biological Polymers 3 *unit(s)*

- BME 174 - Biomedical Regulatory Requirements 3 unit(s)
- BME 178 - Biomedical Product Realization 3 unit(s)
- BME 182 - Orthotics and Prosthetics 3 unit(s)
- BME 187 - Medical Device Quality Systems 3 unit(s)
- BME 188 - Biomedical Device Manufacturing 3 unit(s)
- EE 127 - Electronics for Biomedical Applications 3 unit(s)

## Total Units Required (13 units)

### *BME 25 - Introduction to Biomedical Engineering Design*

3 unit(s)

Introduction to the broader field of biomedical engineering, with emphasis on design of biomedical devices. Development of familiarity with standards and software tools relevant to the biomedical engineering industry, packages for design and analysis, FDA and EU guidelines.

2 hours lecture/3 hours lab.

**Prerequisite(s):** CHEM 1A, ENGR 10, with a grade of "C-" or better.

**Corequisite(s):** MATH 31 or MATH 31X, and PHYS 50.

**Grading:** Graded

### *BME 65 - Biomedical Applications of Statics*

2 unit(s)

Detailed study of bodies in equilibrium as they apply to biomedical systems. Two-dimensional analysis of human joints and load-bearing implants are explored. Topics include free body diagrams, anthropometric measurements, internal forces, loading types, and stress shielding.

**Prerequisite(s):** MATH 31 or MATH 31X, and PHYS 50.

**Grading:** Graded

### *BME 68 - Biomedical Applications of Metals and Ceramics*

3 unit(s)

Fundamentals of the structure, processing, and properties of metals and ceramics used in medical technology. Emphasis is placed on using metals and ceramics for implantable and non-implantable biomedical devices. Recent trends in biomaterials are explored.

**Prerequisite(s):** CHEM 1A, MATH 31 or MATH 31X, PHYS 50.

**Grading:** Graded

### *BME 115 - Foundations of Biomedical Engineering*

4 unit(s)

Introduction to the fundamental principles of biomedical engineering. Core conservation equations are applied to mass, energy, charge, and momentum transfer in biomedical systems. Additional topics provide a breadth of exposure in cell and molecular biology, diagnostics and analytical techniques, statistical analysis of biomedical data, bioinformatics, bioinstrumentation, FDA regulations, and biomedical ethics.

Lecture 2 hours/Lab 3 hours.

**Prerequisite(s):** BIOL 30, CHEM 1B, ENGR 10, MATH 32 or MATH 32X, and PHYS 50.  
**Grading:** Graded

*BME 117 - Biotransport Phenomena*

3 unit(s)

Applications of fundamentals of thermodynamic and kinetic aspects of energy and mass transport phenomena to biological systems. Development of quantitative description of transport processes beginning from the molecular level to entire organ systems.

**Prerequisite(s):** BME 115, MATH 33A or MATH 33LA, BME 130 all with a grade of C- or better.  
**Grading:** Graded

*BME 130 - Numerical Methods in Biomedical Engineering*

3 unit(s)

Course applies computational and numerical analysis techniques to myriad Engineering problems. The course focus is on application of numerical analysis to BME topics ranging from image analysis to nonlinear systems. We will employ various computational tools, including MATLAB/Simulink and ImageJ.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 32 or MATH 32X, BIOL 30, and CHEM 1B all with a grade of C- or better.  
**Corequisite(s):** BME 115, MATH 33A or MATH 33LA.  
**Grading:** Graded

*BME 133 - Programming Applications in Biomedical Engineering*

1 unit(s)

Introduction to applied programming applications in biomedical engineering. Use of Python, JMP, ImageJ to gather, organize, analyze, and present various data types, especially those pertinent to biomedical engineers working in FDA-regulated environments.

*Lab 3 hours.*

**Prerequisite(s):** BME 25.  
**Grading:** Graded

*BME 135 - Biomedical Engineering Design Methods*

2 unit(s)

Review of FDA-required design methods. Application of engineering drafting and design principles to the development of biomedical devices and manufacturing processes. Use of computer-aided design (CAD) tools to generate 3-D models and 2-D drawings of parts and assemblies. Application tolerances for statistical process control.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** BME 25 and ENGR 10.  
**Grading:** Graded

*BME 147 - Quantitative Methods for BME*

3 unit(s)

Descriptive statistics; hypothesis testing; linear and nonlinear model regression; statistical approach to medical device verification and validation; statistical sampling plans; analysis of survival data; bioinformatics; quantitative methods for design and testing of biomedical devices; programming for statistical analysis (R, Matlab).

**Prerequisite(s):** MATH 32 or MATH 32X or MATH 32H, BME 115, and BME 177 all with a grade of "C-" or better.

**Grading:** Graded

*BME 165 - Applied Engineering Biomechanics*

3 unit(s)

Exploration of structural biomechanics applied to the human body. Students compare linear and nonlinear elastic, and viscoelastic models for describing the behavior of musculoskeletal tissues and implants. Concepts include bone remodeling, osteoarthritis, implant failure, muscle contraction, and cardiac mechanics.

**Prerequisite(s):** CE 95, CE 99, BME 65 or equivalent; And MATE 25 or BME 68 or equivalent.

**Grading:** Graded

*BME 168 - Medical and Biological Polymers*

3 unit(s)

Polymers applications in medical devices and equipment, biological and biodegradable polymers, structure-processing-properties relationships, chemistry, thermal transitions, mechanical, electrical and optical properties, clinical outcomes and complications arising from use of polymers, regulatory framework for polymer use in humans.

**Prerequisite(s):** BME 68 or MATE 25 with "C-" or better

**Grading:** Graded

*BME 174 - Biomedical Regulatory Requirements*

3 unit(s)

Study of Food and Drug Administration regulations for design of biomedical engineering products and processes, including design review and documentation processes; Good Laboratory Practices; Good Manufacturing Practices; quality and reliability requirements.

**Prerequisite(s):** ENGR 100W, BME 115

**Corequisite(s):** BME 177

**Grading:** Graded

*BME 177 - Physiology for Engineers*

3 unit(s)

Structure and function of physiological systems and discussion of topics of particular importance to the design, development, construction and clinical application of biomedical devices. Practical laboratory application of technologies to monitor, repair, replace or augment physiological systems.

*Misc/Lab: Lecture 2 hour/Lab 3 hours.*

**Prerequisite(s):** BIOL 30, CHEM 1B, PHYS 50

**Grading:** Graded

*BME 178 - Biomedical Product Realization*

3 unit(s)

Basics of product realization from concept to clinical trials to prepare students for career(s) in multiple bioengineering sectors. Specific topics include: Product Concept, Research & Development, Design Controls in Application, Design Verification and Design Validation, Process Control in Application, Software Validation, Effective Risk Management, Engineering and Quality Management System Practices.

**Prerequisite(s):** ENGR 100W, BME 147, BME 174 all with a grade of C- or better.

**Grading:** Graded

*BME 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics. Students work with faculty and/or industry mentors on design, research, lab development or other types of projects.

**Prerequisite(s):** Upper division standing

**Grading:** Credit/No Credit

*BME 182 - Orthotics and Prosthetics*

3 unit(s)

Diagrammatic breakdown of prosthetic design covering patient interfaces, socket designs, materials, modular components, prosthetic feet, prosthetic knees, upper extremity designs. Treatment options within current standard of care, device design trends, future device, material, and design needs.

**Prerequisite(s):** CE 95 or CE 99, MATE 25, BME 115, BME 177

**Grading:** Graded

*BME 187 - Medical Device Quality Systems*

3 unit(s)

Introduction to the quality management system (QMS) framework for medical devices, principles of QMS, product and service quality evaluation, and control. Topics include: document control, supplier management, training, audits, reliability assessment, feedback and monitoring, quality tools for investigation, and continuous improvement techniques.

**Prerequisite(s):** BME 174.

**Pre/Corequisite(s):** BME 147 or instructor consent.

**Grading:** Graded

*BME 188 - Biomedical Device Manufacturing*

3 unit(s)

Overview of manufacturing processes for producing biomedical devices, implants, instruments, prosthetics, and capital equipment. Introduction to design processes and tools that facilitate start-up and expansion of manufacturing activities.

**Prerequisite(s):** BME 25, MATE 25, BME 115, BME 177, all with C- or better

**Grading:** Graded

*BME 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*BME 198A - Senior Design Project I*

2 unit(s)

Apply bioengineering principles to the design and implementation of an approved project, from problem definition to analysis, design and validation, and experimentation, including possible construction and testing. Integrate global and social issues in engineering. GE Area: S when taken with BME Major sequence.

*Lecture 1 hour/Lab 3 hours.*

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** ENGR 100W, BME 117, BME 177 all with a C or better. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Allowed Declared Major: Biomedical Engineering or Graduate Standing.

**Corequisite(s):** ENGR 195A, and BME 147 or CHE 162 / ISE 162 or ISE 130.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: BME 198B, ENGR 195A and ENGR 195B. All of SJSU Studies courses require completion of the WST and upper division standing.

*BME 198B - Senior Design Project II*

2 unit(s)

Continuation of BME 198A. Culmination of project requiring formal oral presentation and report consisting of documentation of project methodology and results. GE Area: V when taken with BME major sequence.

*Lecture 1 hour/Lab 3 hours.*

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** BME 198A with C or better; BME 147 with C- or better. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Allowed Declared Major: Biomedical Engineering or Graduate Standing.

**Pre/Corequisite(s):** ENGR 195B.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Meets GE Areas S and V when course is taken in combination with: BME 198A, ENGR 195A and ENGR 195B.

*BME 207 - Experimental Methods in BME*

3 unit(s)

Introduction to experimental methods and techniques used in Biomedical Engineering. Principles of data representation, analysis, and experimental designs in bioreactors, biomaterials, and medical devices. Topics include error analyses, modeling, normality testing, hypothesis testing. This is a hands-on course, and students will operate equipment in the departments laboratories.

*2 hours lecture/3 hours lab.*



*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** BME 115, graduate standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BME 210 - Mathematical Methods in Biomedical Engineering*

*3 unit(s)*

Mathematical and computational methods applied to biomedical engineering. Topics include: i) statistical analysis of biomedical datasets, ii) design of experiments to meet FDA requirements, iii) solution techniques for partial differential equations, and iv) modeling of stochasticity in biological systems including error analysis. Prerequisite(s): CMPE 30, MATH 33LA or MATH 33A. Or Graduate standing or by instructor consent.

**Grading:** Graded

*BME 217 - Experimental and Computational Biofluid Mechanics*

*3 unit(s)*

Introduction to blood rheology, cardiovascular fluid mechanics, blood flow dynamics in blood vessels and in proximity of implanted cardiovascular devices, airflow in the lungs, and other physiological flow phenomena. Healthy and diseased states will be considered. Students will familiarize with both experimental and computational approaches to measure physiological flows.

**Prerequisite(s):** BME 117 and BME 210 and Graduate standing; or instructor consent.

**Grading:** Graded

*BME 254 - Microscale Biomedical Systems: Physics and Applications*

*3 unit(s)*

Introduction to microscale physics and phenomena used in biomedical systems; analytical techniques and diagnostic applications. Course will discuss: microscale fluid mechanics (Navier-Stokes), electrical phenomena (Maxwell), and particle/molecule/device interactions. Case studies focus on applications of microscale physics to biomedical engineering analyses.

**Prerequisite(s):** BME 117, MATH 33A or MATH 33LA, and graduate standing; or instructor consent.

**Grading:** Graded

*BME 256 - Biomedical Applications of Nanoplatfoms*

*3 unit(s)*

Biomedical applications of nanoplatfoms explores the development of three cutting edge sub fields: nanoplatfoms in therapeutics; nanoplatfoms in prosthesis and implants; and nanoplatfoms in diagnosis and screening. The socioeconomic risks and solutions of nanoplatfoms in biomedical applications are also explored.

**Prerequisite(s):** BME 177, Graduate Standing or instructor consent

**Grading:** Graded

*BME 258 - Medical Imaging for Engineers*

3 unit(s)

Introduction to the principles and clinical applications of medical imaging. Interaction of radiation with matter. Image acquisition and manipulation. Clinical imaging techniques: X-ray radiography and computed tomography, ultrasound imaging, magnetic resonance imaging. Safety considerations. Computer laboratory: image enhancement, segmentation, contouring.

Lecture 2 hours/Lab 3 hours.

**Prerequisite(s):** PHYS 51, MATH 33A or MATH 33LA, BME 177, and BME 210. Or Instructor consent.

**Grading:** Graded

*BME 272 - Biomedical Device Design and Principles*

3 unit(s)

Principles involved in designing medical devices to function reliably in human body; interaction between synthetic and biological materials; use of design principles during conception and development of medical devices; effect of design on manufacture clinical performance, reliability and quality/regulatory assurance.

**Prerequisite(s):** BME 115, Graduate standing or instructor consent.

**Grading:** Graded

*BME 274 - Regulatory, Clinical and Manufacturing Aspects of Medical Devices*

3 unit(s)

FDA regulations related to medical devices; planning and implementation of clinical trials; sterilization techniques; failure mode analysis; quality control for medical device manufacture; intellectual property; field trips to device manufacturers.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** BME 115, Graduate standing; or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BME 288 - Tissue Engineering*

3 unit(s)

This course strikes a balance among the diversity of subjects that are related to tissue engineering, including biology, chemistry, material science, and engineering, among others. Emphasis on research areas of clinical value for engineering new organ systems.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*BME 291 - MS Thesis/Project Preparation Seminar*

1 unit(s)

Development of project or thesis proposal.

**Prerequisite(s):** Good standing (GPA 3.0), classified status in the BME program, candidacy form submitted, satisfactory completion of graduation writing assessment requirement (GWAR).

**Grading:** Credit/No Credit

*BME 298 - MS Project*

2 unit(s)

Masters project work in Biomedical Engineering.

**Prerequisite(s):** Admission to candidacy. BME 291

**Grading:** Mandatory CR/NC/RP

*BME 298I - Masters Project Internship*

1-2 unit(s)

Masters project work in Biomedical Engineering. This section is for students completing their Masters project work at an off-campus location.

**Prerequisite(s):** Admission to candidacy and BME 291.

**Grading:** CR/NC/RP

*BME 299 - MS Thesis*

3 unit(s)

Masters thesis work in Biomedical Engineering.

**Prerequisite(s):** Admission to candidacy, BME 291, BME 298.

**Grading:** Mandatory CR/NC/RP

*BME 299I - Master's Thesis Internship*

1-3 unit(s)

Master's thesis work in Biomedical Engineering. This section is for students completing their Master's thesis work at an off-campus location.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Admission to candidacy; BME 291; BME 298 or BME 298I; or instructor consent.

**Grading:** CR/NC/RP

*BME 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Outstanding RP grade in a previous semester in BME 298 or BME 299

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Chemical and Materials Engineering

**Office:** Engineering Building 385

**Telephone:** 408-924-4000; 408-924-4057 (Fax)

**Email:** chemical-materials-engineering@sjsu.edu

**Website:** www.sjsu.edu/cme

### Professors

Wenchiang R. Chung, Chair

Claire F. Komives

Melanie A. McNeil

Anand Ramasubramanian

### Assistant Professors

Katy Kao

Ozgur Keles

Santosh Khatrichhetri

Dahyun Oh

Liat Rosenfeld

David Wagner

## Overview

Researchers, chemical and materials process engineers, pharmaceutical engineers, failure analysis engineers, and polymer engineers are some of the jobs that graduates of the Department of Chemical and Materials Engineering obtain in the Silicon Valley and beyond. Our graduates and alumni work in the traditional industries of petroleum processing and metallurgy, as well as in industrial sectors as diverse as semiconductors and microelectronics, additive manufacturing, nanotechnology and biotechnology, food engineering and cosmetics engineering, alternative energy and environmental remediation. In addition to bachelor's and master's degrees in chemical engineering and materials engineering, we offer undergraduate minors in and materials science and engineering. A high percentage of our graduates pursue masters of science and doctorate degrees in graduate schools across the country. The BS Chemical Engineering, and BS Materials Engineering programs are all accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## Undergraduate

### Chemical Engineering, BS

- Department of Chemical and Materials Engineering
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 24

Major Preparation 31

Major Core Requirements 56

Technical Electives 9

**Total** **120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

The following course in Preparation for the Major must be completed with a "C- or Better": ENGL 1B.

The following required courses in the Major Lower Division Core must be satisfied with a "C or better": PHYS 50, MATH 31, and MATH 32 or MATH 32X.

The CHE Sophomore and Junior Core consists of a 2.0 average in {CHE 110A, CHE 110B, CHE 115, CHE 151, CHE 160A, CHE 161L, CHE 162 and CHE 190} and ENGR 100W. Students receiving a grade less than "C-" in any CHE Junior Core course will have to repeat the course(s). The Junior Core must be satisfied in order to enroll in Senior Core course(s).

The CHE Senior Core consists of {CHE 161L, CHE 163L, CHE 165A, CHE 165B, CHE 185, CHE 160B, and CHE 158}. Students receiving any grade less than "C-" in a Senior Core course(s) will have to repeat the courses. Students can repeat any ChE Junior or Senior Core course only once. Failure to pass any ChE Junior or Senior Core course with a grade of "C- or better" after the second attempt will result in disqualification from the ChE major.

### **Prerequisite Requirements**

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## **University Requirements (24 units)**

### **Core Lower Division General Education (6 units)**

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (C1+C2)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (C2+D3+US123)

### Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (31 units)

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- CHEM 1B - General Chemistry 5 unit(s) (B1+B3)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)

### Major Requirements (65 units)

#### Core Courses (11 units)

- CE 99 - Introductory Statics 2 unit(s) (CE 95 also accepted.)
- ENGR 10 - Introduction to Engineering 3 unit(s) (E) (CS 46A or equivalent also accepted, but additional GE Area E units will be required)
- ENGR 100W - Engineering Reports 3 unit(s) (Z+R)
- MATE 25 - Introduction to Materials 3 unit(s)

### Engineering and Science Required Courses (45 units)

- CHE 110A - Mathematical Methods in Chemical Engineering 2 *unit(s)*
- CHE 110B - Computational Methods in Chemical Engineering 2 *unit(s)*
- CHE 115 - Industrial Chemical Calculations 3 *unit(s)*
- CHE 151 - Process Engineering Thermodynamics 4 *unit(s)*
- CHE 158 - Kinetics and Reactor Design 3 *unit(s)*
- CHE 160A - Unit Operations I 4 *unit(s)*
- CHE 160B - Unit Operations II 4 *unit(s)*
- CHE 161L - Undergraduate Chemical Engineering Laboratory 2 *unit(s)*
- CHE 162 - Engineering Statistics and Analysis 2 *unit(s)*
- CHE 163L - Undergraduate Chemical Engineering Laboratory II 2 *unit(s)*
- CHE 165A - Plant Design I 2 *unit(s)*
- CHE 165B - Plant Design II 2 *unit(s)*
- CHE 185 - Chemical Process Dynamics and Control 2 *unit(s)*
- CHE 190 - Introduction to Transport Phenomena 3 *unit(s)*
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*

## Technical Major Electives (9 units)

Electives must be selected from the approved departmental elective track list in consultation with the students' advisor

## Total Units Required (120 units)

# Materials Engineering, BS

- Department of Chemical and Materials Engineering
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	18
Major Preparation	34
Major Requirements	68
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

The following course in Preparation for the Major must be completed with a "C- or Better": ENGL 1B.

The following required in the Major Lower Division Core must be satisfied with a "C- or Better": MATH 30, MATH 31, MATH 32, PHYS 50, PHYS 51, CHEM 1A, CHEM 1B and ENGR 10.

The MATE Junior Core consists of a 2.0 average in {MATE 115, MATE 141, MATE 151, MATE 153, MATE 154 and MATE 155} and ENGR 100W. Students receiving a grade less than "C-" in a Junior Core course may have to repeat the course. The Junior Core must be satisfied in order to enroll in Senior Core courses.

The MATE Senior Core consists of {MATE 195, MATE 198A, MATE 198B, MATE 185, and MATE 152}. Students receiving a grade less than "C-" in a senior core course will have to repeat the course before graduation.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Graduation Requirements (18 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)



- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (34 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

## Major Requirements (68 units)

### Core Courses (14 units)

- EE 98 - Introduction to Circuit Analysis 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- MATE 25 - Introduction to Materials 3 *unit(s)*
- CE 99 - Introductory Statics 2 *unit(s)* (CE 95 also accepted.)

## Materials Eng Major Courses (45 units)

*Must take both MATE 195 and ENGR 195A and ENGR 195B to meet Area requirements*

- CHE 161 - Process Safety and Engineering Ethics 1 *unit(s)*
- CHE 162 - Engineering Statistics and Analysis 2 *unit(s)*
- MATE 115 - Structure/Properties of Solids 3 *unit(s)*
- MATE 141 - Structure and Analysis of Materials 3 *unit(s)*
- MATE 143 - Principles of Scanning Electron Microscopy 1 *unit(s)*
- MATE 144 - X-Ray Diffraction Lab 1 *unit(s)*
- MATE 151 - Solid State Thermodynamics 3 *unit(s)*
- MATE 152 - Solid State Kinetics 3 *unit(s)*
- MATE 153 - Electronic, Optical and Magnetic Properties of Materials 3 *unit(s)*

- MATE 154 - Metals and Alloys 3 *unit(s)*
- MATE 155 - Materials Selection and Process Design 3 *unit(s)*
- MATE 185 - Ceramics 3 *unit(s)*
- MATE 186 - Polymers 3 *unit(s)*
- MATE 195 - Mechanical Behavior of Materials 3 *unit(s)*
- MATE 198A - Senior Design Project 2 *unit(s)* (S)
- MATE 198B - Senior Design Project 2 *unit(s)* (V)
- ME 20 - Design and Graphics 2 *unit(s)*
- ME 30 - Computer Applications 2 *unit(s)*
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* (S)
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* (V)

## Technical Major Electives (9 units)

Electives must be selected from the approved departmental list in consultation with the students' advisor.

## Total Units Required (120 units)

# Master

## Chemical Engineering, MS

The MS Chemical Engineering program, offered by the Department of Chemical and Materials Engineering, provides advanced study of chemical engineering topics with an emphasis on both the fundamental and applied aspects. Elective courses are also available in science, other engineering fields, and business. This broad-based, multi-disciplinary educational program has proven to be an important factor for a student's future success including leading Silicon Valley companies and in Ph.D. programs.

Faculty are involved in research areas including: biochemical engineering, semiconductor processing, green and alternative energy, microfluidics, polymers and nanocomposites, nanotechnology, and environmental health and safety engineering, remediation, sustainability, and computational methods. Research activity is sponsored by local industries as well as by government funding agencies.

The MS Chemical Engineering program welcomes students with undergraduate BS degrees in closely related science (e.g. biology, chemistry, physics) and engineering disciplines (e.g. biochemical, biomedical, civil, materials, and mechanical).

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis as the majority of classes are scheduled during the evening hours.

**Department Website:** [www.sjsu.edu/cme](http://www.sjsu.edu/cme).

## Program Objectives

The CHE Master's program is designed to produce graduates who:

- Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.

- Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.
- Can deliver effective presentations of engineering results in written and oral formats.
- Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.
- Are effective leaders, capable of working in diverse environments.
- Are able to apply their engineering education to a variety of career paths.

## Requirements for Admission

### University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants should note that some department admission requirements are higher than university admissions requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage. The program does not currently require the GRE for admission.

### Admission to the Program

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, a student must possess a U.S. baccalaureate degree with a major in chemical engineering and a grade point average of 3.0 or better in the last 60 units, from an ABET-accredited chemical engineering program.

Students can be admitted with conditionally classified standing if they have a CHE degree from a U.S. accredited university in which they obtained a 2.7-2.99 GPA in the last 60 units; a U.S. equivalent CHE degree from a non-U.S. institution; or a BS degree in chemistry, biology, physics or closely related engineering discipline from an accredited or equivalent institution. Students admitted with conditionally classified standing will take a series of transition courses. The program admissions letter will explain terms and requirements. Once these conditions are completed satisfactorily, students can petition for classified standing. For more information on transition courses, see the department website.

## Requirements for Candidacy

Students must meet the university requirements for candidacy which include successful completion of the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students complete the GWAR as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Course Requirements

To meet the requirements for the MS - Chemical Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course and maintain a cumulative GPA of 3.0 or better.

In addition to the 30 approved course units, students must complete a written thesis or project report and an oral defense of their thesis or project. Either Plan A (Thesis) or Plan B (Project) may be chosen in consultation with the student's SJSU research advisor.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students in the MS, Chemical Engineering program may complete the program 1-unit Culminating Experience CE 298/CHE 298I or CE 299/CHE 299I through their choice of a graduate project or master's thesis, respectively.

### Plan A (Thesis)

Students opting to complete a master's thesis will take CHE 281, CHE 280, and CHE 299 - Master's Thesis for a total of 6 units. An additional 6 units of CHE 280 may be taken for elective credit. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the thesis committee chair. The student must also secure the commitments of two additional committee members, one of whom must be a full or part-time SJSU faculty member, to serve as the student's thesis committee. If the student is completing their thesis research off-site, then one person of their thesis committee must be at least a supervisor-level employee from that off-site facility. The student must write a thesis proposal and have it approved by the thesis committee in order to pass CHE 281. CHE 299 is taken in the semester the student expects to complete their final oral and written defense which will serve as their culminating experience. The MS candidate must successfully pass an oral defense and complete an approved thesis report in order to receive credit for CHE 299. Students must be enrolled in courses every semester with the exception of an approved leave of absence for one semester. Students who have finished all their 30 units with the exception of an RP grade in CHE 299 are eligible for enrollment in CHE 1290R for a reduced tuition fee. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (Project)

Students opting to complete a graduate project will take CHE 281, CHE 280, and CHE 299 - Master's Thesis for a total of 4 units. An additional 2-8 units of CHE 280 may be taken for elective credit. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the project committee chair. The student must also secure the commitments of an additional committee member to serve as the student's project committee. If the student is completing their thesis project research off-site, then one person of their project committee must be at least a supervisor-level employee from that off-site facility. The student must write a project proposal and have it approved by the project committee in order to pass CHE 281. CHE 298 is taken in the semester the student expects to complete their final oral defense and written project report, which will serve as their culminating experience. The MS candidate must successfully pass an oral and defense and complete an approved written project report in order to receive credit for CHE 298. Students must be enrolled in courses every semester with the exception of an approved leave of absence for one semester. Students who have finished all their 30 units with the exception of an RP grade in CHE 298 are eligible for enrollment in CHE 1290R for a reduced tuition fee. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

## Masters Requirements (30 units)

## Plan A (Thesis)

- CHE 200 - Research Methods 3 *unit(s)* (GWAR)
- CHE 207 - Mass Transfer 3 *unit(s)*
- CHE 211 - Advanced Chemical Engineering Thermodynamics 3 *unit(s)*
- CHE 218 - Reaction Kinetics 3 *unit(s)* (GWAR)
- CHE 219 - Transport Processes 3 *unit(s)*

## Core Courses (17 units)

- CHE 200 - Research Methods 3 *unit(s)* (GWAR)
- CHE 211 - Advanced Chemical Engineering Thermodynamics 3 *unit(s)*
- CHE 218 - Reaction Kinetics 3 *unit(s)* (GWAR)
- CHE 219 - Transport Processes 3 *unit(s)*
- CHE 281 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

## Electives (12 units)

- 12 units electives selected in consultation with graduate advisor  
*May include up to six (6) additional units of CHE 280.*

## Culminating Experience (1 unit)

- CHE 298 - MS Research/Project 1-2 *unit(s)*

## Plan B (Project)

### Core Courses (15-17 units)

- CHE 200 - Research Methods 3 *unit(s)* (GWAR)
- CHE 211 - Advanced Chemical Engineering Thermodynamics 3 *unit(s)*
- CHE 218 - Reaction Kinetics 3 *unit(s)* (GWAR)
- CHE 219 - Transport Processes 3 *unit(s)*
- CHE 281 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

### Electives (12-14 units)

- 12-14 units of electives selected in consultation with graduate advisor  
*May include up to six (6) additional units of CHE 280.*

### Culminating Experience (1 unit)

- CHE 298 - MS Research/Project 1-2 *unit(s)*

## Total Units Required (30 units)

*A total of 10 units of CHE 280 is allowed as part of the 30 units required for a MS CHE degree.*

## Materials Engineering, MS

The MS Materials Engineering program is offered by the Department of Chemical and Materials Engineering. The program provides advanced study of materials engineering topics with an emphasis on both the fundamental and applied aspects. A multidisciplinary approach to education is evident in the materials engineering program's specialization areas of semiconductor processing, polymers, ceramics, structural materials, and biomaterials. Elective courses are also available in science, business, and other engineering fields. This broad-based, multi-disciplinary educational program has proven to be an important factor for a student's future success including leading Silicon Valley companies and in Ph.D. programs. Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

Faculty are actively involved in research areas including electronic and magnetic materials, nanomaterials, energy materials, structural materials, computations, polymers, composites, and biomaterials. Research activity is sponsored by local industries as well as by government funding agencies.

The MS Materials Engineering program welcomes students with undergraduate degrees in a variety of other engineering and science disciplines.

**Department Website:** [www.sjsu.edu/cme](http://www.sjsu.edu/cme)

**Department Email:** [chemical-materials-engineering@sjsu.edu](mailto:chemical-materials-engineering@sjsu.edu)

## Program Objectives

The MATE Master's program is designed to produce graduates who:

- Are able to solve complex engineering problems and tasks, and use engineering, science and statistics principles to justify recommendations.
- Are able to evaluate the impact of their work on society, including ethical, economic, global and environmental aspects.
- Can deliver effective presentations of engineering results in written and oral formats.
- Have life-long learning skills and are able to apply their engineering knowledge to critically evaluate relevant literature and new technologies or systems.
- Are effective leaders, capable of working in diverse environments.
- Are able to apply their engineering education to a variety of career paths.

## Requirements for Admission

Students can be admitted with conditionally classified standing if they have a MATE degree from a US accredited university in which they obtained a 2.7-2.99 GPA in the last 60 units; a MATE degree from a non-US institution; or if they have a BS degree in a related discipline, such as chemical engineering, chemistry, biology, or physics from an accredited institution. Students with conditionally classified standing will take a series of transition courses. Once these are completed satisfactorily, students can petition from classified standing. For more information on the transition courses, contact the graduate coordinator at [bme-engineering@sjsu.edu](mailto:bme-engineering@sjsu.edu).

## Requirements for Candidacy

Students must meet the university requirements for candidacy which includes successful completion of the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students meet the Graduation Writing Assessment Requirement as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Course Requirements

To meet the requirements for the MS - Materials Engineering degree, a student must complete 30 units of approved courses. Students must achieve a minimum of a "C" in each course and a cumulative GPA of 3.0 or better. Students must complete a written thesis or project report and an oral defense of their thesis or project. Either Plan A (thesis) or Plan B (project) will be chosen in consultation with the student's SJSU research advisor. Minimum requirements for each plan are as follows:

## Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

Choose a Plan:

#### Plan A (Thesis) (30 units)

##### Core Courses (20 units)

- CHE 200 - Research Methods 3 *unit(s)* (GWAR)
- MATE 205 - Advanced Mechanical Behavior of Solids 3 *unit(s)*
- MATE 215 - Solid State Materials Engineering 3 *unit(s)*
- MATE 241 - Advanced Methods of Materials Characterization 3 *unit(s)*
- MATE 251 - Advanced Solid State Thermodynamics 3 *unit(s)*
- MATE 280 - Graduate Research 1-3 *unit(s)* (4 *units* required)
- MATE 281 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

##### Approved Electives (9 units)

##### Culminating Experience (1 unit)

Complete one course:

- MATE 298 - MS Research/Project 1-2 *unit(s)*
- MATE 298I - Master's Project Internship 1-2 *unit(s)*
- MATE 299 - Master's Thesis 1-3 *unit(s)*
- MATE 299I - Master's Thesis Internship 1-3 *unit(s)*

#### Plan B (Project) (30 units)

## Core Courses (18-20 units)

- CHE 200 - Research Methods 3 *unit(s)* (GWAR)
- MATE 205 - Advanced Mechanical Behavior of Solids 3 *unit(s)*
- MATE 215 - Solid State Materials Engineering 3 *unit(s)*
- MATE 241 - Advanced Methods of Materials Characterization 3 *unit(s)*
- MATE 251 - Advanced Solid State Thermodynamics 3 *unit(s)*
- MATE 280 - Graduate Research 1-3 *unit(s)* (2-4 units required)
- MATE 281 - MS Thesis/Project Preparation Seminar 1 *unit(s)*

## Approved Electives (9-11 units)

## Culminating Experience (1 unit)

- MATE 298 - MS Research/Project 1-2 *unit(s)* (1 unit required)

## Total Units Required (30 units)

## Minor

## Materials Science and Engineering Minor

Students enrolled in good standing in an engineering or science major may complete a Minor in Materials Science and Engineering. To be awarded the Minor, which appears on the official diploma and transcript, the student must complete 12 units, all of which must be outside the required courses in the major. The 12 units cannot be counted on both the Minor Form and the Major Form. Either MATE 25 or MATE 115 (or both) must be included in the Minor. The student, in consultation with a Materials Engineering academic advisor, should select 12 units in either the electronic materials option, the structural materials option or the general materials option. Prerequisites for each course must be met unless student receives instructor permission to waive them.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (12 units)

### Choose an Option

## Electronic Materials and Processing (12 units)

Complete 12 units from:

- MATE 25 - Introduction to Materials 3 *unit(s)*
- MATE 115 - Structure/Properties of Solids 3 *unit(s)*
- MATE 129 - Introduction to Integrated Circuits Processing and Design 3 *unit(s)*
- MATE 141 - Structure and Analysis of Materials 3 *unit(s)*



- MATE 153 - Electronic, Optical and Magnetic Properties of Materials 3 unit(s)

## Structural and Mechanical Materials (12 units)

Complete 12 units from:

- MATE 25 - Introduction to Materials 3 unit(s)
- MATE 115 - Structure/Properties of Solids 3 unit(s)
- MATE 135 - Introduction to Composite Materials 3 unit(s)
- MATE 141 - Structure and Analysis of Materials 3 unit(s)
- MATE 175 - Biomaterials 3 unit(s)
- MATE 185 - Ceramics 3 unit(s)
- MATE 186 - Polymers 3 unit(s)
- MATE 195 - Mechanical Behavior of Materials 3 unit(s)

## General Materials (12 units)

- MATE 25 - Introduction to Materials 3 unit(s)
- MATE 115 - Structure/Properties of Solids 3 unit(s)
- 9 additional units from either of the options above

## Total Units Required (12 units)

### *CHE 109 - Heat Transfer in Electronics*

3 unit(s)

Introduction to thermodynamics and heat transfer, including conduction, convection and radiation. An emphasis on applications for electronics; including heat transfer in computer components, heat sinks, liquid and air cooling and heat pipes.

**Prerequisite(s):** EE 98, PHYS 51 and one of the following courses: MATH 39 or MATH 33LA . Allowed Declared Majors: Computer Engineering, Electrical Engineering, Engineering, Industrial and Systems Engineering.

**Grading:** Graded

### *CHE 110A - Mathematical Methods in Chemical Engineering*

2 unit(s)

Mathematical methods applied to engineering problems using chemical engineering examples. The development of mathematical models to describe chemical process dynamic behavior. Mathematical methods focus on linear algebra, ordinary differential equations and partial differential equations with specific applications to chemical engineering.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** MATH 32 or MATH 32X, and PHYS 51 with grade C or better.

**Grading:** Graded

### *CHE 110B - Computational Methods in Chemical Engineering*

2 unit(s)

Computational methods applied to engineering problems using chemical engineering examples. The solution of mathematical models to describe chemical process dynamic behavior. Computational tools focus on MATLAB, CAD design and simulation packages with specific applications to chemical engineering.

Lecture 1 hour/lab 3 hours.

**Prerequisite(s):** CHE 110A with a grade of "C-" or better, CHE 115 with a grade of  $\geq$ C- $\geq$  or better, or instructor consent.

**Grading:** Graded

*CHE 115 - Industrial Chemical Calculations*

3 unit(s)

Methods of formulation and solution of material and energy balances as applied to chemical processes.

Lecture 2 hours/calculation period 3 hours.

**Prerequisite(s):** PHYS 51 (with a grade of "C-" or better); MATH 33A; CHEM 1B.

**Corequisite(s):** ENGR 10.

**Grading:** Graded

*CHE 131 - Air Pollution Meteorology*

3 unit(s)

Quantitative description of contaminants in the atmosphere: sources, dispersion and sinks; their effects on atmospheric energy balance and condensation.

**Prerequisite(s):** METR 121B or instructor consent.

**Grading:** Graded

*CHE 133 - Sustainable Engineering*

3 unit(s)

Concepts of sustainable system design in engineering with an emphasis on measuring sustainability, designing for sustainability, and implementing sustainability. Applications include a chemical focus that incorporates process engineering fundamentals and green chemistry principles.

**Prerequisite(s):** CHE 110A or MATH 33LA with a grade of C- or better, CHE 115 with a grade of C- or better, instructor consent.

**Grading:** Graded

*CHE 137 - Pollution Control Engineering*

3 unit(s)

Sources and effects of air pollution. Design aspects of mitigation, abatement, and strategies for control of air pollution and subsequent water and soil pollution.

**Prerequisite(s):** CHE 110A or MATH 33LA with a grade of C- or better, CHE 115 with a grade of C- or better, instructor consent.

**Grading:** Graded

*CHE 151 - Process Engineering Thermodynamics*

4 unit(s)

Analysis of the ideal and real behavior of gases, liquids and solids from a macroscopic viewpoint; 1st and 2nd Law; phase rule, volumetric properties of fluids; heat effects; solution theory and applications; vapor-liquid and solid-solid equilibrium; chemical reaction equilibria.

*Misc/Lab: Lecture 3 hours/calculation period 3 hours.*

**Prerequisite(s):** CHE 115 and ENGR 10

**Grading:** Graded

*CHE 158 - Kinetics and Reactor Design*

3 unit(s)

Analysis of unsteady chemical processes with emphasis on kinetics of reaction and application of fundamental principles to the design and operation of commercial reactors.

*Misc/Lab: Lecture 2 hours/calculation period 3 hours.*

**Prerequisite(s):** CHE 115, CHE 151, CHE 160A, CHE 162 and CHE 190 (with an average of "C" or better in the five courses); ENGR 100W.

**Grading:** Graded

*CHE 160A - Unit Operations I*

4 unit(s)

Materials transportation, fluid metering, mixing, sedimentation, filtration, heat exchange and evaporation; types of equipment used and numerous practical applications. Introduction to transport theory.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** CHE 115 and CHE 190.

**Grading:** Graded

*CHE 160B - Unit Operations II*

4 unit(s)

Continuation of CHE 160A. Mass transfer operations, diffusion, absorption, extraction, distillation, humidification, membrane separations, drying and crystallization. Field trips to process industries. Integrate global and social issues in engineering.

*Lecture 3 hours/calculation period 3 hours.*

**Prerequisite(s):** CHE 115, CHE 151, CHE 160A, CHE 162, and CHE 190 (with an average of "C" or better in the five courses); ENGR 100W. Allowed Declared Major: Chemical Engineering.

**Grading:** Graded

*CHE 161 - Process Safety and Engineering Ethics*

1 unit(s)

Topics include principles of chemical process safety, risk assessment, analysis of ethics issues, and the application

of the engineering ethical code using case studies. Integrate global and social issues in engineering.

*Misc/Lab: Lecture 1 hour.*

**Prerequisite(s):** CHEM 1B.

**Grading:** Graded

*CHE 161L - Undergraduate Chemical Engineering Laboratory*

*2 unit(s)*

Quantitative study of chemical engineering processes, with emphasis on fluid flow and heat transfer operations. Written and oral reports required.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** CHE 115, CHE 162, and CHE 190 (with an average of C or better in the three courses); and ENGR 100W.

**Corequisite(s):** CHE 151 and CHE 160A.

**Grading:** Graded

*CHE 162 - Engineering Statistics and Analysis*

*2 unit(s)*

Topics will include error analysis, probability, statistics including hypothesis testing, confidence limits and control variables, design of experiments and statistical process control as they are utilized in the chemical, materials and process engineering industries.

*Lecture 1 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 33A

**Grading:** Graded

*CHE 163L - Undergraduate Chemical Engineering Laboratory II*

*2 unit(s)*

Chemical engineering principles with an emphasis on traditional and novel applications in focuses such as environmental engineering and biotechnology. Written and oral reports are required.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** ENGR 100W, CHE 161L, CHE 190, and CHE 160A.

**Corequisite(s):** CHE 158 and CHE 160B.

**Grading:** Graded

*CHE 165A - Plant Design I*

*2 unit(s)*

Introduction to the technical and economic evaluation of a chemical processing plant design. Introduction to project design and effective team management. First of a two-course sequence.

*1 hour lecture/ 3 hours lab.*

**Corequisite(s):** CHE 158 and CHE 160B; instructor consent.

**Grading:** Graded

*CHE 165B - Plant Design II*

2 unit(s)

Continuation of the technical and economic evaluation of a chemical processing plant, including most aspects of a typical industrial design. Major plant design project report required. Second of two-course sequence.

1 hour lecture/ 3 hours lab.

**Prerequisite(s):** CHE 165A; instructor consent.

**Grading:** Graded

*CHE 172 - Biofuels Process Engineering*

3 unit(s)

Focus on the practical applications of engineering principles and practices used to produce the three major biofuels products commonly available today: ethanol, biodiesel and methane. Differences between entrepreneurial efforts and more traditional processes will be explored.

**Prerequisite(s):** CHE 160A

**Grading:** Graded

*CHE 174 - Hazardous Materials*

3 unit(s)

Review of current methods and procedures for management of hazardous materials and hazardous wastes; analysis of contaminated systems and remedial actions.

**Prerequisite(s):** PHYS 51, PHYS 52, or PHYS 71 and CHEM 1A or instructor consent.

**Grading:** Graded

*CHE 176 - Energy Storage Systems*

3 unit(s)

Principles and technology of energy conversion related to energy storage systems such as batteries, fuel cells, solar cells, and super capacitors. Relationships among electricity, chemistry, heat and mass transfer in energy storage systems. Energy storage system design and applications are emphasized.

**Prerequisite(s):** Senior Standing. Engineering and Science majors only

**Grading:** Graded

*CHE 178 - Smart Sensors and Biosensors*

3 unit(s)

Theoretical and experimental understanding of design, operation, and performance of sensors and biosensors and integration into wired and wireless monitoring systems. Types include magnetic, optical, bio, chemical, radiation, electrical and mechanical. Lab explores sensor design parameters such as sensitivity, dynamic range, specificity, stability, repeatability, and compatibility and the integration of sensors with data acquisition to create a smart system.

Lecture 2 hours/lab 3 hours.

**Prerequisite(s):** Completion of Junior Core with a C- or better, ENGR 100W, Instructor consent.

**Grading:** Graded

*CHE 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Not available to Open University Students

**Grading:** Credit/No Credit

*CHE 180R - Undergraduate Research and Projects*

1-3 unit(s)

Individual work on special topics by arrangement. This section is for students working on formal, structured research or projects that are substantial enough to meet the requirements of the elective ChE lab requirement in each of the emphasis tracks.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*CHE 185 - Chemical Process Dynamics and Control*

2 unit(s)

Dynamic behavior of representative chemical processes. Process control; dynamics of open-loop systems; techniques of closed-loop control.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** CHE 160B.

**Grading:** Graded

*CHE 190 - Introduction to Transport Phenomena*

3 unit(s)

Introduction to thermodynamics, fluid mechanics and heat transfer. Basic thermodynamics with first and second laws. Laminar and turbulent flow of incompressible fluids. Boundary layer analysis. Convection and steady state and transient conduction.

**Prerequisite(s):** CHE 110A or MATH 33LA with a grade of "C-" or better, PHYS 51 with a grade of "C" or better, CE 95 or CE 99. Or instructor consent.

**Grading:** Graded

*CHE 192 - Introduction to Biochemical Engineering*

3 unit(s)

Enzyme kinetics and enzyme reactors, enzyme isolation and purification, cellular regulation and recombinant DNA technology, microbial kinetics and design/operation of fermenters.

**Prerequisite(s):** CHEM 112A, or both CHEM 130A and CHEM 130B, or CHEM 135 or CHE 158.

**Grading:** Graded

*CHE 193 - Microbiological Techniques*

1 unit(s)

Microbiological techniques for non-biologists.

**Prerequisite(s):** Upper division standing; lower division biology; or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*CHE 194 - Biochemical Engineering Lab*

3 unit(s)

Principles, concepts and mechanisms of growth and purification of products from biological systems investigated, with emphasis on scale-up procedures. Recombinant DNA techniques and bioinformatics included.

*Misc/Lab: Lecture 2 hour/lab 3 hours.*

**Pre/Corequisite(s):** CHE 192.

**Grading:** Graded

*CHE 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CHE 199 - Special Topics in Chemical and Materials Engineering*

3 unit(s)

Special Topics in Chemical and Materials Engineering. Content varies from semester to semester. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CHE 200 - Research Methods*

3 unit(s)

Introduction to key statistical, experimental, and computational tools for independent project and research investigation in chemical and materials engineering. Literature review, experiments, data analysis, and individual written reports.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Conditional graduate standing in Chemical or Materials Engineering

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR.

*CHE 207 - Mass Transfer*

3 unit(s)

An advanced study of the principles of mass transfer in the diffusional operations of distillation, absorption, extraction, drying and humidification.

**Prerequisite(s):** CHE 160B.

**Grading:** Graded

*CHE 211 - Advanced Chemical Engineering Thermodynamics*

3 unit(s)

Quantitative development of fundamental laws of thermodynamics and their application to chemical processes. Equilibria and thermal effects in homogeneous and heterogeneous systems. Studies of behavior of complex mixtures and high pressure phenomena.

**Prerequisite(s):** CHE 151 and MATH 33A.

**Grading:** Graded

*CHE 218 - Reaction Kinetics*

3 unit(s)

Theoretical background of simple homogeneous reactions collision theory and absolute reaction rate theory; mechanisms of complex homogeneous reactions. Mechanisms of reactions catalyzed by solids; diffusion in solid catalyst. Reactor design.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** MATH 33A, CHE 151, and CHE 158.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CHE 219 - Transport Processes*

3 unit(s)

Derivation of general differential equations for transport of heat, mass and momentum; kinetic theory of fluids and its application to transport phenomena based on molecular motion; methods for estimating transport coefficients in fluids.

**Prerequisite(s):** CHE 160B.

**Grading:** Graded

*CHE 280 - Graduate Research*

1-3 unit(s)

Supervised individual research or directed studies for the student with adequate preparation.



*Course may be repeated for credit for up to 10 units.*

**Grading:** Credit / No Credit

**Note(s):** Not available to Open University students.

*CHE 280I - Graduate Research Internship*

*1-3 unit(s)*

Supervised individual research or directed studies for the student with adequate preparation.

*Course may be repeated for credit for up to 10 units.*

**Grading:** Credit / No Credit

**Note(s):** Not available to Open University students. This course is for students completing their research work at an off campus location.

*CHE 281 - MS Thesis/Project Preparation Seminar*

*1 unit(s)*

Development of project or thesis proposal.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** Classified standing, completion of minimum 9 units towards MS degree, candidacy form submitted, satisfactory completion of university graduate writing requirement.

**Grading:** Credit/No Credit

*CHE 291 - Industrial Bioseparations*

*3 unit(s)*

Industrial considerations for downstream bioseparation processes including design, troubleshooting, scale-up, economics and validation with a focus on pharmaceutical products.

**Prerequisite(s):** CHE 192 or biochemistry or relevant industrial experience.

**Grading:** Graded

*CHE 293 - Applied Bioinformatics*

*3 unit(s)*

Bioinformatics theory and applications including sequence search, proteomics, molecular modeling, and combinatorial chemistry. Students will work in teams and be guided in independent inquiry to solve practical bioinformatics problems.

**Prerequisite(s):** Senior or graduate standing in engineering or science.

**Grading:** Graded

*CHE 297 - Special Topics in Chemical Engineering*

1-4 unit(s)

Special topics to augment regularly-scheduled graduate courses.

**Prerequisite(s):** Graduate standing or instructor permission.

**Grading:** Graded

*CHE 298 - MS Research/Project*

1-2 unit(s)

Master's project work in Chemical Engineering.

**Prerequisite(s):** Admission to candidacy. Not available to Open University Students

**Corequisite(s):** CHE 281.

**Grading:** Mandatory CR/NC/RP

*CHE 298I - MS Research/Project Internship*

1-3 unit(s)

Master's project work in Chemical Engineering. This section is for students completing their Master's project work at an off campus location.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Admission to candidacy. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CHE 299 - Master's Thesis*

3 unit(s)

Master's thesis work in Chemical Engineering.

**Prerequisite(s):** CHE 281 and CHE 298. CHE 298 may be taken co-currently with instructor approval. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CHE 299I - Master's Thesis Internship*

1-3 unit(s)

Master's thesis work in Chemical Engineering. This section is for students completing their Master's thesis work at an off campus location.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** CHE 281, CHE 298. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

**Note(s):** CHE 298 may be taken co-currently with instructor approval.

*CHE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum

required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Outstanding RP grade in a previous semester in ChE 298 or 299

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit

*MATE 25 - Introduction to Materials*

3 unit(s)

Atomic and crystal structures; imperfections and atom movement; phase equilibria and transformations; boundaries; heat treatment of metals; mechanical, physical and chemical properties of engineering materials.

**Prerequisite(s):** CHEM 1A, PHYS 50, and MATH 31; all with a grade of "C" or better. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*MATE 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*MATE 115 - Structure/Properties of Solids*

3 unit(s)

Bonding and crystal structure; the space lattice and unit cell calculations; crystalline anisotropy; point, line and surface defects; phase equilibria and interpretation of phase diagrams; thermal activation and the vacancy mechanism of mass transport in solids.

**Prerequisite(s):** PHYS 51 (with a grade of "C-" or better); MATH 33A; CHEM 1B; MATE 25.

**Corequisite(s):** ENGR 10.

**Grading:** Graded

*MATE 129 - Introduction to Integrated Circuits Processing and Design*

3 unit(s)

Basic processes involved in fabrication of integrated circuits; semiconductor physics, material preparation, oxidation, diffusion; photolithographic, thin-film deposition and etching. Simple component layout and evaluation of device parameters.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153.

**Grading:** Graded

*MATE 131 - Fundamentals of Additive Manufacturing*

3 unit(s)

Introduction to additive manufacturing (AM) and 3D printing, including development of AM, AM process chain, design for AM, and case studies. Focus on capabilities, limitations, and basic principles of various AM techniques, such as material extrusion, vat polymerization, powder bed fusion processes, material jetting, binder jetting, sheet

lamination, and directed energy deposition processes.

**Prerequisite(s):** MATE 25 with "C" or better

**Grading:** Graded

*MATE 135 - Introduction to Composite Materials*

3 unit(s)

Introduction to theory, application, and design with composite materials, including high performance resin-matrix fibrous composites and metal-matrix materials. Topics include materials, test techniques, environmental effects, design considerations, and application requirements.

**Prerequisite(s):** MATE 25.

**Grading:** Graded

*MATE 141 - Structure and Analysis of Materials*

3 unit(s)

Crystallography and structural analysis of materials by x-rays and electrons. Imaging, diffraction, scattering and spectroscopic methods of characterization.

**Prerequisite(s):** MATE 115.

**Corequisite(s):** MATE 153.

**Grading:** Graded

*MATE 143 - Principles of Scanning Electron Microscopy*

1 unit(s)

Principles and practice of scanning electron microscopy. Basic theory and skills development of electron microscopy, including electron dispersive spectroscopy. Imaging and compositional analysis of conductive and non-conductive samples.

*Misc/Lab: 3 hour lab.*

**Prerequisite(s):** Introductory course in chemistry, physics or materials engineering.

**Grading:** ABC-/NC Grading

*MATE 144 - X-Ray Diffraction Lab*

1 unit(s)

Practical applications of X-ray diffraction. Including phase identification, texture analysis, grain size determination.

**Pre/Corequisite(s):** MATE 141 or instructor consent.

**Grading:** ABC-/NC Grading

*MATE 145 - Principles of Scanning Probe Microscopy*

1 unit(s)

Principles and practice of various surface probe microscopies including AFM and STM.

**Prerequisite(s):** Introductory course in chemistry, physics or materials engineering.

**Grading:** ABC-/NC Grading

*MATE 151 - Solid State Thermodynamics*

3 unit(s)

Analysis of the ideal and real behavior of gases, liquids and solids from a macroscopic viewpoint; 1st and 2nd Law; phase rule, volumetric properties of fluids; heat effects; solution theory and applications; vapor-liquid and solid-solid equilibrium; chemical reaction equilibria.

**Prerequisite(s):** MATE 115

**Grading:** Graded

**Note(s):** Lecture 3 hours

*MATE 152 - Solid State Kinetics*

3 unit(s)

Diffusion and rates of reaction in solids. Transformations in solids, including nucleation and growth, martensitic transformation, spinodal decomposition and order-disorder reactions.

**Prerequisite(s):** 2.0 average for MATE 115, MATE 141, MATE 151, MATE 154, MATE 155; ENGR 100W; CHE 162.

**Grading:** Graded

*MATE 153 - Electronic, Optical and Magnetic Properties of Materials*

3 unit(s)

Crystalline and energy band structure of materials, thermal properties and electrical conduction in semiconductors and metals, optical and magnetic properties of solids.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** PHYS 51, CHEM 1A, EE 98, and MATH 33A.

**Grading:** Graded

*MATE 154 - Metals and Alloys*

3 unit(s)

Thermal and mechanical processing of metals and alloys. Heat treatments, metallography and interpretation of microstructure. Biomedical, aerospace, automotive and other applications of metals discussed, including precipitation hardening of non-ferrous metal alloys, and the processing/structure/properties relationship in titanium alloys.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATE 115.

**Corequisite(s):** MATE 153 or ENGR 100W.

**Grading:** Graded

*MATE 155 - Materials Selection and Process Design*

3 unit(s)

Methodology for selecting materials in process design for engineering applications. Case studies emphasizing materials selection and process parameters. Evaluation of material performance, robust design, and process control on semiconductor manufacturing, bioengineering devices, energy storage and conversion, water purification applications.

**Prerequisite(s):** MATE 115, CHE 162, and ENGR 10.

**Grading:** Graded

*MATE 165 - Photovoltaic Fabrication/Testing Lab*

*1 unit(s)*

Laboratory course covering photovoltaic (solar cell) design, fabrication, and testing. TCAD simulation tools will be used in design. Fabrication processes will include cleaning, surface texturing, deposition, diffusion, metallization, photolithography, etching, and electrical testing.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153 or corequisite of MATE 129.

**Grading:** Graded

*MATE 168 - Microfluid Fabrication and Design*

*1 unit(s)*

Hands-on design, fabrication, and testing of microfluidic devices. Processes including photolithography, soft lithography, and plasma bonding. Design problems for microfluidic devices. Introduction to microfluidics simulation.

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*MATE 169 - Microelectromechanical Systems Fabrication and Design*

*1 unit(s)*

Hands-on design, fabrication, and testing of micro electro-mechanical systems (MEMS). Processes including photolithography, etching, and metal deposition applied to MEMS. Design problems for MEMS transducer components. Introduction to MEMS simulation.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*MATE 175 - Biomaterials*

*3 unit(s)*

Properties, function, design, characterization, and evaluation of biomaterials used in biosensors, drug delivery systems, bioimaging, biofilms, biocoatings, and bio/nano applications. Fundamental materials properties and chemistry of inorganic biomaterials such as ceramics, metals, composites, glasses; and organic biomaterials including DNA/RNA/protein/peptide systems, polymers, and hydrogels. Interconnectedness of the structure/processing/property relationship and processing conditions and their effect on resulting physical and mechanical properties.

**Prerequisite(s):** MATE 25 or instructor consent.

**Grading:** Graded

*MATE 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Major form on file with department and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*MATE 185 - Ceramics*

3 unit(s)

Structure, properties and processing of crystalline and glassy ceramics, including defect thermodynamics, surfaces, ternary phase equilibria, and sintering. Applications include solid oxide fuel cells, oxide based chemical sensors, ceramics for biomedical and dental applications, and processing of electronic components.

**Prerequisite(s):** MATE 115, MATE 151; MATE majors must also satisfy Jr. Core requirements.

**Grading:** Graded

*MATE 186 - Polymers*

3 unit(s)

Structure and properties of solid polymers; chemistry; thermal transitions; mechanical, electrical and optical properties; influence of chemical structure and processing on properties; applications.

**Prerequisite(s):** MATE 25 (with a grade of "C")

**Grading:** Graded

*MATE 193 - Special Topics in Materials Characterization Lab*

2 unit(s)

Hands-on laboratory experience in the characterization of special classes of materials including biomaterials, polymers, hydrogels, proteins, and cells, with emphasis on understanding the structure-property-performance relationship in the design and function of materials. Topics selected from chemical characterization, biological characterization, scattering and imaging methods, mechanical techniques, thermal analysis techniques, and surface modification techniques.

*Lecture 1 hour/Lab 3 hours.*

*Course may be repeated for credit for different topics for a maximum of 4 units.*

**Prerequisite(s):** Completion of Junior Core with a C- or better, ENGR 100W. For ChE, MatE, or closely related majors. Instructor consent.

**Grading:** Graded

*MATE 195 - Mechanical Behavior of Materials*

3 unit(s)

Elasticity, plasticity, anelasticity; deformation mechanisms; effect of microstructure and imperfections; fatigue, creep, fracture; plane stress and plane strain; failure analysis for structural applications involving engineering devices and systems, bulk and nanomaterials, material compatibility, and interfacial bonding in thin films.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATE 115, ENGR 100W, CHE 162, CE 99; MatE majors must satisfy the Junior core.

**Grading:** Graded

*MATE 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MATE 198A - Senior Design Project*

2 unit(s)

Apply materials engineering principles to the design and implementation of an approved materials engineering project, Integrate global and social issues in engineering.

*Misc/Lab: Lecture 1 hour/Lab 3 hours.*

*Satisfies SJSU Studies S: Self, Society & Equality in US when taken as part of the MATE Major sequence.*

**Prerequisite(s):** 2.0 average and "C-" minimum grade in (MATE 115, MATE 141, MATE 151, MATE 153, MATE 154, MATE 155); ENGR 100W; CHE 162.

**Corequisite(s):** ENGR 195A, MATE 195 and CHE 161

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: MATE 198B, ENGR 195A and ENGR 195B

*MATE 198B - Senior Design Project*

2 unit(s)

Apply materials engineering principles to the design and implementation of an approved materials engineering project, Integrate global and social issues in engineering.

*Misc/Lab: Lecture 1 hour/Lab 3 hours.*

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding when taken as part of the MATE Major sequence.*

**Prerequisite(s):** MATE 198A with a minimum grade of "C".

**Corequisite(s):** ENGR 195B

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: MATE 198A, ENGR 195A and ENGR 195B.

*MATE 199 - Special Topics in Chemical and Materials Engineering*

3 unit(s)

Special Topics in Chemical and Materials Engineering. Content varies from semester to semester. Course is repeatable for a total of 6 units.



*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MATE 205 - Advanced Mechanical Behavior of Solids*

*3 unit(s)*

Structure-property relationships in mechanical behavior of materials, including elastic, anelastic and plastic behavior; creep characteristics, fracture, testing methods, dislocation dynamics, strengthening mechanisms.

**Prerequisite(s):** MATE 115 (or equivalent).

**Grading:** Graded

*MATE 210 - Experimental Methods in Materials Engineering*

*3 unit(s)*

Advanced study of experimental techniques used in materials engineering, including data acquisition and analysis, experiment design strategy and hands-on operation of advanced equipment.

*Misc/Lab: Lecture 2 hour/lab 3 hours.*

**Prerequisite(s):** MATE 115 (or equivalent).

**Grading:** Graded

*MATE 215 - Solid State Materials Engineering*

*3 unit(s)*

Electrical, optical and magnetic properties. Includes wave mechanics, bonding theory, energy band theory, electronic transport, conduction, semiconduction and insulation.

**Prerequisite(s):** MATE 115 (or equivalent).

**Grading:** Graded

*MATE 220 - Principles and Applications of Electrochemistry*

*3 unit(s)*

Applied electrochemical systems, such as fuel cells, batteries, electrolytic plating, electrosynthesis. Environmental degradation in biological and material systems. Modern electrochemical techniques in analytical chemistry, including polarography, cyclic voltammetry, coulometric and pulse methods.

**Prerequisite(s):** MATE 155 (or equivalent) or instructor consent.

**Grading:** Graded

*MATE 232 - Plasma Processing of Materials*

*3 unit(s)*

Principles of low temperature plasmas used for materials processing, including plasma fundamentals, plasma chemistry, collision and heating mechanisms and diagnostics. Material interactions in plasma assisted etching, deposition, and surface treatment will be emphasized.

**Prerequisite(s):** MATH 33A, MATE 25, and PHYS 51 or equivalent courses.

**Grading:** Graded

*MATE 241 - Advanced Methods of Materials Characterization*

3 unit(s)

Methods for characterization and analysis of bulk materials, films, nanoscale structures and surfaces.

**Prerequisite(s):** Upper division undergraduate course in chemistry, condensed matter physics or materials.

**Grading:** Graded

*MATE 251 - Advanced Solid State Thermodynamics*

3 unit(s)

Thermodynamics of phase changes, nucleation and growth, martensitic changes, diffusion, rate theory, structural changes accompanying transformation, applications of theoretical concepts to materials development.

**Prerequisite(s):** MATE 115 and MATE 151 (or equivalent).

**Grading:** Graded

*MATE 260 - Theory of Semiconductor Materials*

3 unit(s)

Advanced theory of constitution, structure and energy bands in semiconductors; material requirements of devices; different methods of doping, interconnection, isolation of circuits, material processing and failure analysis.

**Prerequisite(s):** MATE 25, MATE 115, MATE 153 or MATE 129 (or equivalent).

**Grading:** Graded

*MATE 265 - Principles of Nanomaterials*

3 unit(s)

The fundamental properties of nanomaterials including thermodynamic, mechanical, electrical, magnetic, optical and biochemical properties and synthesis and characterization. Applications including nanomaterials for structural composites, memory and logic devices, clean renewable energy technologies, bio materials in drug delivery, and aerospace applications.

**Prerequisite(s):** CHEM 1A, EE 98, MATH 33A, PHYS 51, MATE 25, and MATE 153.

**Grading:** Graded

*MATE 270 - Methods of Thin Film Deposition*

3 unit(s)

Chemical and physical methods of thin film deposition including evaporation, sputtering, chemical vapor deposition, and electroplating. Thermodynamics and kinetics of growth; considerations for reactor design; control of deposition to alter film properties; deposition processes used for metals, dielectrics and semiconductors.

**Prerequisite(s):** MATE 152 (or equivalent).

**Grading:** Graded

*MATE 280 - Graduate Research*

1-3 unit(s)

Supervised individual research or directed studies for the student with adequate preparation.

*Course may be repeated for credit for up to 10 units.*

**Grading:** Credit / No Credit

**Note(s):** Not available to Open University students.

*MATE 280I - Graduate Research Internship*

1-3 unit(s)

Supervised individual research or directed studies for the student with adequate preparation.

*Course may be repeated for credit for up to 10 units.*

**Grading:** Credit / No Credit

**Note(s):** Not available to Open University students. This course is for students completing their research work at an off campus location.

*MATE 281 - MS Thesis/Project Preparation Seminar*

1 unit(s)

Development of project or thesis proposal.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** Classified standing, completion of minimum 9 units towards MS degree, candidacy form submitted, satisfactory completion of university graduate writing requirement.

**Grading:** Credit/No Credit

*MATE 297 - Special Topics in Materials Engineering*

1-4 unit(s)

Special topics to augment regularly-scheduled graduate courses.

**Prerequisite(s):** Graduate standing or instructor permission.

**Grading:** Graded

**Note(s):** By arrangement only.

*MATE 298 - MS Research/Project*

1-2 unit(s)

Master's project work in Materials Engineering.

**Prerequisite(s):** Admission to candidacy

**Corequisite(s):** MATE 281. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*MATE 298I - Master's Project Internship*

1-2 unit(s)

For students completing their MATE Master's Plan B (Project) work at an off-campus location.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Mandatory CR/NC/RP

*MATE 299 - Master's Thesis*

1-3 unit(s)

Master's thesis work in Materials Engineering.

**Prerequisite(s):** Admission to candidacy. Not available to Open University Students.

**Corequisite(s):** MATE 281.

**Grading:** Mandatory CR/NC/RP

*MATE 299I - Master's Thesis Internship*

1-3 unit(s)

For students completing their MATE Master's thesis work at an off-campus location.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** MATE 281, MATE 298. MATE 298 may be taken co-currently with instructor approval. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*MATE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Outstanding RP grade in a previous semester in MATE 298 or MATE 299

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit

## Department of Civil and Environmental Engineering

**Office:** Engineering Building 145

**Telephone:** 408-924-3900 (Voice); 408-924-4004 (Fax)

**Website:** [cee.sjsu.edu](http://cee.sjsu.edu)

### Professors

Akthem Al-Manaseer

Jan L. Botha

Kurt McMullin

Udeme Ndon  
Steven M. Vukazich

### **Associate Professors**

Jae-Ho Pyeon  
Laura Sullivan-Green, Chair

### **Assistant Professors**

William Greenwood  
Olivia Hoang  
Indumathi Jeyachandran

## **Overview**

Civil engineers plan, design and supervise the construction of water supply systems, communications networks and transportation systems. They construct buildings and foundations. Using modern technology, they solve pollution and planning problems and tackle other engineering challenges. The Department of Civil and Environmental Engineering offers both bachelor's and master's degree programs. The undergraduate program includes course work in construction, environmental, geotechnical, structural, transportation and water resources engineering. Classroom instruction is supplemented by hands-on laboratory experiences, and the opportunity to participate in student clubs, including the American Society of Civil Engineers, Associated General Contractors, Institute of Transportation Engineers, Water Environmental Federation and American Water Works Association. To accommodate graduate students who also work, graduate courses are scheduled in the late afternoon and evening. The undergraduate program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)

## **Undergraduate**

### **Civil Engineering, BS**

- Department of Civil and Environmental Engineering
- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements 27

Major Preparation 32

Major Requirements 61

**Total 120**

#### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

The following course in Preparation for the Major must be completed with a "C- or better": ENGL 1B

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (27 units)**

### **Core Lower Division General Education (6 units)**

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (6 units)**

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (12 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 *unit(s)* (M4)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)

### **Physical Education**

### **Graduation Writing Assessment Requirement (3 units)**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)

## Major Preparation (32 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent second semester composition course.)
- GEOL 2 - Geology for Engineers 3 *unit(s)*
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

## Major Requirements (61 units)

Students must earn at least a 2.0 GPA in required major courses as listed below.

### Core Courses (15 units)

- CE 20 - Engineering Graphics, CAD and Programming 3 *unit(s)* (Taking both ME 20 and ME 30 can be used to satisfy CE 20.)
- CE 95 - Theory and Application of Statics 3 *unit(s)*
- CE 112 - Mechanics of Materials 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- ME 101 - Dynamics 3 *unit(s)*

### Required Major Courses (37 units)

- CE 8 - Plane Surveying 3 *unit(s)*
- CE 120 - Construction Materials Laboratory 1 *unit(s)*
- CE 121 - Transportation Engineering 3 *unit(s)*
- CE 130 - Civil Engineering Economic Analysis 2 *unit(s)*
- CE 131 - Introduction to Construction Engineering 3 *unit(s)*
- CE 140 - Geotechnical Engineering 3 *unit(s)*
- CE 150 - Introduction to Hydrology and Hydraulics 3 *unit(s)*
- CE 160 - Structural Analysis 3 *unit(s)*
- CE 162 - Structural Concrete Design 3 *unit(s)*
- CE 170 - Principles of Environmental Engineering 3 *unit(s)*
- CE 181 - Civil Engineering Systems 3 *unit(s)*
- CE 190 - Numerical Solutions of Civil Engineering Problems 2 *unit(s)*
- CE 192 - Probabilistic Models for Civil Engineering Decisions 2 *unit(s)*
- ME 111 - Fluid Mechanics 3 *unit(s)*

### Additional Courses (9 units)

Three courses from Civil Engineering electives approved by a major advisor.

Two of the three elective courses must be approved design electives.

**Total Units Required (120 units)**

## **Master**

### **Civil Engineering, MS**

The Master of Science in Civil Engineering program is designed for students to specialize in their choice of sub-discipline in Civil Engineering. The Department of Civil and Environmental Engineering offers specializations in Construction Management, Environmental Engineering, Geotechnical Engineering, Structural Engineering, Transportation Engineering, and Water Resources Engineering. Courses are practical-oriented, focusing on content and skills that prepare engineers to enter and/or advance in industry or enter doctoral programs. The program offers coursework in a once-per-week format in the afternoons and evenings to accommodate working individuals who wish to pursue their studies while gaining industry experience. Additional information is available at: <http://cee.sjsu.edu>.

## **Program Educational Objectives and Graduate Program Outcomes**

The graduate program's educational objectives (PEOs) for Civil Engineering are to

- Prepare students for their professional careers and licensure by strengthening their knowledge in their specialization (depth) and extending their skills and knowledge base (breadth);
- Provide students advanced proficiencies for professional practice to enable them to advance in the licensing process and equip them for advancement in their career;
- Improve students' research skills and prepare them for further graduate study;
- Provide students with experience and skills for multi-disciplinary and cross-CE disciplinary practice.

Four graduate program learning outcomes (PLOs) are aligned with the PEOs and are assessed in individual graduate courses. By the end of the program, students should be able to

- Apply advanced concepts, theory, and analysis for problem-solving;
- Synthesize and integrate necessary engineering concepts into engineering solution process;
- Apply modern tools for computations, simulations, analysis, and design;
- Communicate effectively.

## **Admissions Requirements**

### **Requirements for Admission to Classified Standing**

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MS in Civil Engineering program. In addition to meeting university admission requirements, an applicant must have:



- A bachelor's degree in civil engineering
- A 2.7 grade point average (4.0-based scale)

## Requirements for Admission to Conditionally Classified Standing

Applicants who do not qualify for classified standing in civil engineering but who meet university requirements for graduate admission and whose academic records or professional achievements and maturity give promise of satisfactory performance in graduate study in civil engineering may, upon approval of a committee of department faculty, be admitted, with specific conditions, as conditionally classified. The conditions must be fulfilled before the student can be advanced to candidacy for the degree. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by notifying the Associate Dean of Graduate Studies. This process is known as administrative academic disqualification (see Section 41300.1, Title 5, California Code of Regulations). Applicants whose bachelor's degrees are not in civil engineering will be required to take additional courses that will not be counted in the graduate degree program for the MSCE. Details can be obtained on the department website at: [cee.sjsu.edu/graduate-studies/makeup-requirements](http://cee.sjsu.edu/graduate-studies/makeup-requirements).

## English Proficiency Requirements

If an applicant's bachelor's degree is not from a U.S. or Canadian university, a GRE must be taken; minimum scores acceptable for admission are listed on the Graduate Program Test Requirements webpage at GAPE. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Conditionally classified students must satisfy the conditional requirements listed in their letter of acceptance prior to advancing to candidacy. Students who have completed matriculation and achieved classified standing in the MS degree may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100 or 200-level courses acceptable to the CE Department. Students must also fulfill other university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

Approved courses may include graduate courses and upper-division elective courses in Civil Engineering and graduate or upper-division courses in other university departments from a list approved by the Civil Engineering Department Curriculum Committee. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15. At least 60% of the courses taken must be letter-graded. No more than 30% of the courses listed for candidacy can be transfer units, including any graduate-level courses taken in the senior undergraduate year at SJSU.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

Eligible primary and secondary areas of specialization in civil engineering areas are:

- Construction Engineering
- Environmental Engineering
- Geotechnical Engineering
- Structural Engineering
- Transportation Engineering
- Water Resources Engineering

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan A (Thesis)

Students choosing this option must complete 6 units of Project and Thesis courses. The student is responsible for securing the commitment of three committee members, in accordance with university policy, to serve as the student's thesis committee. One faculty member in the CEE department must agree to serve as the thesis committee chair. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The candidate must pass a final oral defense of the thesis. Meeting thesis standards and passing the oral defense is solely the responsibility of the student and a student who fails to meet these standards will be required to maintain continuous enrollment at the university until the work is complete.

### Plan B (Project)

Students choosing the Project option must complete 3 units of CE 298 - Special Problems under the advisement of at least one departmental faculty member. The student is also responsible for securing a committee to review the project. The project must culminate in a project report and an oral defense of the project. In addition to the project, the student must select and complete a program in a secondary area of emphasis in consultation with their advisor.

### Plan B (Comprehensive Exam)

Students choosing this option must sign up for and pass the departmental comprehensive exam, given once per semester, during the final term of study. The student is responsible for applying for graduation prior to signing up for the exam. In addition to the comprehensive exam, the student must select and complete a program in a secondary area of emphasis in consultation with their advisor. The comprehensive exam covers topics in the student's primary and secondary areas of emphasis. Signing up for the exam does not necessarily meet enrollment requirements for external agencies and cannot be used for that purpose. Students who fail to register for or pass the comprehensive exam in their final term of study will be required to maintain continuous enrollment with the university in subsequent semesters and may be required to complete remedial work.

## Masters Requirements (30 units)

### Core Courses (15-18 units)

- 100-Level or 200-Level CE Courses within one primary area of specialization

### Electives (6-9 units)

Consent of graduate advisor required

### Culminating Experience (6-12 units)

#### **Complete One Option (Plan A Thesis, Plan B Project or Plan B Comprehensive Exam)**

#### Plan A (Thesis) (6 units)

- CE 298 - Special Problems *1-6 unit(s)*
- CE 299 - Master's Thesis or Project *1-6 unit(s)*

#### Plan B (Project) (9-12 units)

- Project students take 6-9 units in a secondary area of specialization *6-9 unit(s)*
- CE 298 - Special Problems *1-6 unit(s)*

#### Plan B (Comprehensive Exam) (6-9 units)

- Comprehensive Exam students take 6-9 units in a secondary area of specialization *6-9 unit(s)*
- Sign up for Comprehensive Exam in the Department Office in your final semester.
- Comprehensive Exam

## Total Units Required (30 units)

### *CE 8 - Plane Surveying*

*3 unit(s)*

Theory and practice of engineering measurements. Techniques and instruments used establishing horizontal and vertical control. Topographic methods.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 19 (or eligibility for MATH 30 or MATH 30X).

**Grading:** Graded

### *CE 20 - Engineering Graphics, CAD and Programming*

*3 unit(s)*

Develop visualization skills by using technical sketching, AutoCAD and manual drafting to solve civil engineering

graphical problems. Subjects include: isometric sketching, orthographic projection, descriptive geometry, and plan reading. Writing computer programming code and logic flow.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 19 (or eligibility for MATH 30 or MATH 30X).

**Grading:** Graded

*CE 95 - Theory and Application of Statics*

*3 unit(s)*

Detailed study of bodies in equilibrium to provide background for advanced study of engineering mechanics. Applications to general three-dimensional bodies and structural systems. Topics include free body diagrams, centroids, internal forces, distributed loads, moments of inertia and friction.

**Prerequisite(s):** MATH 31X or MATH 31, and PHYS 50.

**Grading:** Graded

*CE 99 - Introductory Statics*

*2 unit(s)*

Introduction to the study of two-dimensional bodies in equilibrium. Applications to two-dimensional particles and structural systems. Topics include free body diagrams, centroids, and moments of inertia.

**Prerequisite(s):** MATH 31, PHYS 50.

**Grading:** Graded

*CE 104 - Introduction to GIS in Civil Engineering*

*3 unit(s)*

Fundamentals of geographic information systems (GIS) for civil engineering applications. Topics include: GIS data types, projections, coordinate transformations, spatial analysis approaches, raster and vector analyses, and map generation.

**Prerequisite(s):** CE 8, CE 20, MATH 33A, and CE 192.

**Grading:** Graded

*CE 112 - Mechanics of Materials*

*3 unit(s)*

Stress distributions, strain, stresses and deformations in machines and structures subject to axial, bending and torsional loads, including combined loads. Stability of columns.

**Prerequisite(s):** CE 95 or CE 99, MATH 33A. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*CE 113 - Mechanics of Materials Laboratory*

*1 unit(s)*

Experimental stress analysis. Verification of theoretical models through testing. Deflection of beams, inelastic bending and column instability.

**Prerequisite(s):** CE 112. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*CE 120 - Construction Materials Laboratory*

*1 unit(s)*

Properties, testing and design of civil engineering construction materials, including aggregates for concrete and bituminous mixes. Theory and design of bituminous and portland cement-aggregate mixes.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** CE 112. Allowed Declared Major: Civil Engineering.

**Grading:** Graded

*CE 121 - Transportation Engineering*

*3 unit(s)*

Principles, theories, practices in transportation engineering design; planning surveys and data analysis; traffic flow characteristics; location and geometric design of systems to include highways, rail, airports, waterways and pipelines. Problems in planning, design and operations.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** CE 8, CE 20, MATH 32 or MATH 32X, PHYS 50. Allowed Declared Major: Civil Engineering.

**Grading:** Graded

*CE 122 - Traffic Engineering*

*3 unit(s)*

Design of traffic control systems to include traffic signals and other traffic control devices for safe and efficient vehicular flow; traffic surveys; traffic operations.

**Prerequisite(s):** MATH 32 or graduate standing. Junior standing. Allowed Declared Major: Civil Engineering.

**Grading:** Graded

*CE 123 - Highway and Street Design*

*3 unit(s)*

Geometric design of highways and streets. Discussion of design policy. Safety and operational features as well as the evaluation of improvements.

**Prerequisite(s):** CE 121 or graduate standing

**Grading:** Graded

*CE 130 - Civil Engineering Economic Analysis*

*2 unit(s)*

Marginal theoretic procedures for identifying optimal investment alternatives. Algorithmic approaches to one-dimensional deterministic benefit-cost analysis. Multidimensional and probabilistic decision problems.

**Prerequisite(s):** MATH 32 or MATH 32X. Allowed Declared Major: Civil Engineering.

**Grading:** Graded

*CE 131 - Introduction to Construction Engineering*

3 unit(s)

Introduction to construction engineering, construction contract types, contracting documents, project delivery methods, owner-engineer-contractor relationships, professional liability, engineering ethics, construction cost estimates, construction planning, basic concepts and techniques of scheduling, creating CPM scheduling, updating and reporting a schedule.

**Prerequisite(s):** CE 130.

**Grading:** Graded

*CE 132 - Construction Methods and Equipment*

3 unit(s)

Construction earthmoving, excavating, loading, compacting; safety; equipment productivity; construction methods and materials.

**Prerequisite(s):** CE 130, CE 140 or graduate standing

**Grading:** Graded

*CE 134 - Project Management for Construction*

3 unit(s)

Methods of planning and controlling construction including the participants, processes and techniques required to maintain the life cycle of a construction project. Planning construction operations, estimating, analyzing the bid process, jobsite operations and functions, safety, quality and scheduling.

**Prerequisite(s):** CE 131 or Graduate standing. Junior Standing in Engineering.

**Grading:** Graded

*CE 140 - Geotechnical Engineering*

3 unit(s)

Soil as an engineering material; Classification, compaction, consolidation, shear strength, and permeability of soils; Basic design concepts for bearing capacity of shallow foundations, lateral earth pressures and slope stability.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CE 20, CE 112, ME 111, ENGR 100W. Allowed Declared Majors: Civil Engineering, Geology.

**Grading:** Graded

*CE 144 - Groundwater and Filtration*

3 unit(s)

Flow of water through soil; Groundwater and Geologic Processes; Flow nets for soil barriers; Pollutant Flow and Remediation; Seepage; Construction Dewatering.

**Prerequisite(s):** CE 140 and CE 150 or graduate standing.

**Grading:** Graded

*CE 145 - Foundation Engineering*

3 unit(s)

Use of field data in Geotechnical design; Design of shallow foundations for bearing capacity and settlement; Design of deep foundations for shear and tip resistance; Analysis of mat foundations. Design of retaining walls.

**Prerequisite(s):** CE 140 or graduate standing

**Grading:** Graded

*CE 150 - Introduction to Hydrology and Hydraulics*

3 unit(s)

Analysis and design of open channels and pipe networks. Introduction to hydraulic structures, machinery, basic hydrology, and computer modeling. Social impacts of Civil Engineering.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CE 20, ME 111, ENGR 100W.

**Grading:** Graded

*CE 152 - Engineering Hydrology*

3 unit(s)

Hydrologic processes; streamflow, hydrographs and flood routing; groundwater hydraulics; flood frequency analysis.

**Prerequisite(s):** CE 150 or graduate standing

**Grading:** Graded

*CE 154 - Hydraulic Design*

3 unit(s)

Design of hydraulic structures-reservoirs, dams, spillways, energy dissipators, outlet works, hydroelectric systems and flood control.

**Prerequisite(s):** CE 150 and graduate standing

**Grading:** Graded

*CE 160 - Structural Analysis*

3 unit(s)

Analysis of statically determinate beams, frames, and plane trusses. Force method of analysis of statically indeterminate structures. Applications to building design. Introduction to computer analysis.

*Misc/Lab: Lecture 2 hours/computation period 3 hours.*

**Prerequisite(s):** CE 20, CE 112, and ME 101. Allowed Declared Major: Civil Engineering.

**Grading:** Graded

*CE 162 - Structural Concrete Design*

3 unit(s)

Strength design and alternative load and strength reduction factor theories of reinforced concrete. Design of beams, Slabs, compression members, foundations and building frames. Design project required. Social impacts of Civil Engineering.

*Lecture 2 hours/Design Period 3 hours.*

**Prerequisite(s):** CE 120, CE 160, and ENGR 100W. Allowed Declared Major: Civil Engineering.  
**Grading:** Graded

*CE 163 - Design of Steel Structures*

*3 unit(s)*

Structural steel design elements for buildings and bridges, tension members, beams, columns, bolted and welded connections. Design project.

**Prerequisite(s):** CE 160 or graduate standing. Allowed Declared Major: Civil Engineering.  
**Grading:** Graded

*CE 164 - Design of Wood Structures*

*3 unit(s)*

Design of structural elements for wood buildings. Horizontal and vertical plywood diaphragms for seismic and wind loads. Tension members, beams, columns and connections. Design project using the National Design Specifications and the Uniform Building Code.

**Prerequisite(s):** CE 160 and graduate standing  
**Grading:** Graded

*CE 165 - Earthquake Resistant Design*

*3 unit(s)*

Seismic resistant design according to the provisions of the Uniform Building Code. Elements of seismic hazard analysis.

**Prerequisite(s):** CE 160 or graduate standing  
**Grading:** Graded

*CE 170 - Principles of Environmental Engineering*

*3 unit(s)*

Introduction to environmental (water, air and land) pollution problem, surface water and groundwater quality, water and wastewater treatment processes, drinking water and wastewater treatment flowsheets, design of drinking water treatment processes, contemporary environmental issues, and environmental sustainability.

*Misc/Lab: Lecture 2 hours; lab/design 3 hours.*

**Prerequisite(s):** CE 20, ME 111, CHEM 1A, and ENGR 100W  
**Grading:** Graded

*CE 171 - Environmental Engineering Analysis and Design*

*3 unit(s)*

Fundamentals of environmental systems and design: Pollution flow and concentration, pollution materials balance, reaction kinetics for destruction of pollutants, pollution control reactor analysis and design, application in the design of water and wastewater treatment processes.



**Prerequisite(s):** CE 170 and graduate standing  
**Grading:** Graded

*CE 172 - Solid Waste Management Engineering*

3 unit(s)

Introduction to engineering analysis, planning and design problems associated with storage, collection, processing, treatment and disposal of solid waste.

**Prerequisite(s):** CE 170 or graduate standing.  
**Grading:** Graded

*CE 173 - Engineering for Sustainable Environment*

3 unit(s)

Introduction to environmentally conscious engineering and pollution prevention for sustainable environment, and a review of impact of engineering projects, processes and products on the environment.

**Prerequisite(s):** CE 170 or graduate standing  
**Grading:** Graded

*CE 174 - Design of Water Distribution and Wastewater Collection Systems*

3 unit(s)

Application of environmental engineering and fluid mechanics to the design of water distribution systems, wastewater collection systems, water/wastewater storage systems, and appurtenances.

**Prerequisite(s):** CE 150 and CE 170  
**Grading:** Graded

*CE 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics by arrangement. Repeatable: Repeatable for credit.

**Prerequisite(s):** Upper division standing. Allowed Declared Major: Civil Engineering. Not available to Open University Students.  
**Grading:** Credit/No Credit

*CE 181 - Civil Engineering Systems*

3 unit(s)

Principles of systems design for civil engineers, including formulation of project objectives, constraints, problem statements, alternatives generation, alternatives evaluation and decision analysis. Principles demonstrated through case studies.

**Prerequisite(s):** CE 121, CE 130, CE 131, CE 140, CE 150, CE 160, CE 170, CE 192  
**Grading:** Graded

*CE 190 - Numerical Solutions of Civil Engineering Problems*

2 unit(s)

Reformulating linear and non-linear, static and dynamic civil engineering problems for numerical solution by computers.

**Prerequisite(s):** MATH 33A, ENGR 10. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*CE 192 - Probabilistic Models for Civil Engineering Decisions*

2 unit(s)

Elementary concepts of probability theory, statistics and decision theory. Applications to modeling and decision-making.

**Prerequisite(s):** MATH 32 MATH 32X.

**Grading:** Graded

*CE 192I - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*CE 210 - Advanced Mechanics*

3 unit(s)

Beams on elastic foundations, curved beams, torsion of non-circular sections, introduction to the theory of elasticity, three dimensional stress and strain, failure theories, deep beams.

**Prerequisite(s):** CE 160 and MATH 33A (or equivalent).

**Grading:** Graded

*CE 212 - Structural Dynamics*

3 unit(s)

Analysis of lumped and distributed parameter systems subject to dynamic loading; matrix analysis and orthogonal functions applied to beams, frames and complex structures. Introduction to earthquake response spectrum analysis.

**Prerequisite(s):** CE 160 (or equivalent).

**Grading:** Graded

*CE 220 - Rigid and Flexible Pavement Design*

3 unit(s)

Advanced study of the theories and practices in the structural design of flexible and rigid pavements for highways and airports; magnitude and arrangement of wheel loads; stresses in flexible and rigid pavements; pavement behavior under moving loads; design of bases and subbases; methods of structural design of flexible and rigid pavements; pavement evaluation, strengthening and selection criteria; accelerated traffic and loading tests.

**Prerequisite(s):** CE 120 and CE 140 (or equivalent).

**Grading:** Graded

*CE 221 - Advanced Highway Design*

3 unit(s)

Advanced study of highway location and design principles; advanced analysis of criteria controlling geometric design of highways including design speed, design volume, vehicle requirements and capacity; advanced theory and practice in the design of alignment, grade and cross-section; design of intersections and interchanges; access control, frontage roads.

**Prerequisite(s):** CE 121 (or equivalent).

**Grading:** Graded

*CE 222 - Transportation Engineering Planning*

3 unit(s)

Technical and economic evaluation of transportation improvements; capacity restraints; geometric design factors, location and relocation principles; optimization theory in transportation system design; user costs and benefits; transport equipment; operation and safety; economic impact, construction and maintenance practices; intergovernmental coordination, cooperation, responsibility and financial participation.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 121 and CE 130.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 224 - Traffic Operations*

3 unit(s)

Flow, density and speed characteristics. Capacity and level of service analysis of transportation facilities with emphasis on highways and streets. Analysis of strategies and tactics, including traffic control, related to optimal use of facilities.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 225 - Public Transportation Systems*

3 unit(s)

Performance characteristics of public transportation systems. Planning, design and operational issues related to public transportation systems. Emerging technologies.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 121 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 226 - Topics in Transportation Engineering*

3 unit(s)

Presentation and discussion of special topics in transportation engineering. Topics may vary each semester. Course may be repeated with instructor consent.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*CE 232 - Construction Estimating and Cost Analysis*

3 unit(s)

Estimating and bid preparation in the construction industry including cost analysis techniques for labor, materials, equipment and overhead costs on a construction project. Development of schedules and networks for construction.

**Prerequisite(s):** CE 130 and CE 131.

**Grading:** Graded

*CE 234 - Construction Law*

3 unit(s)

Construction contracts and specifications, bid documents, sources of law, agency relationships, contract formation, breach of contract, tort law, contract interpretation, changes, mechanics liens, claims and disputes.

**Prerequisite(s):** CE 131 (or equivalent).

**Grading:** Graded

*CE 236 - Construction Operations Analysis*

3 unit(s)

Overall aspects of productivity improvement for construction operations. Quantitative methods for measuring, analyzing and improving productivity at job sites. Concepts of computer simulation to study, plan and optimize construction operations.

**Prerequisite(s):** CE 132 or instructor consent.

**Grading:** Graded

*CE 237 - Sustainable Construction*

3 unit(s)

Green construction processes, sustainable construction materials, material recycling and reuse in construction, green construction policy, green building case study, economic analysis of green buildings, and LEED rating systems and certification.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 130 and CE 131, or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 238 - Advanced Construction Project Management*

3 unit(s)

Provides the principles and techniques of construction project management and develops the engineering project management skills necessary to successfully participate in the management of the project delivery process.

**Prerequisite(s):** CE 131 or instructor consent.

**Grading:** Graded

*CE 239 - Information Technology in Construction*

3 unit(s)

Provides information technology applications in construction, from traditional computer applications to emerging web-based and mobile technologies. Design, development, and implementation of decision support systems for construction management applications.

**Prerequisite(s):** CE 131 or instructor consent.

**Grading:** Graded

*CE 240 - Advanced Soil Mechanics*

3 unit(s)

Advanced study of classical and modern soil mechanics theories, including: consolidation, stress and deformation, shear strength. In-depth discussion of stress paths, flow nets and stress variants.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 140 (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 243 - Advanced Foundation Design*

3 unit(s)

Advanced analysis of foundation design for atypical soil conditions. Seismic design of foundations. Laterally loaded foundations. Structural design of shallow foundations.

**Prerequisite(s):** CE 141 (or equivalent).

**Grading:** Graded

*CE 245 - Geotechnical/Structural Seminar*

3 unit(s)

Meetings for the presentation and discussion of special topics and case histories of significant engineering projects by the faculty, guest lecturers and graduate students. Topics will vary each semester. May be repeated for credit when content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 140 (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 246 - Geotechnical Earthquake Engineering*

3 unit(s)

Wave propagation in soils, seismology, fundamentals of dynamic soil behavior, seismic hazard analysis, site effects, liquefaction, and seismic design.

**Prerequisite(s):** CE 140 (or equivalent).

**Grading:** Graded

*CE 247 - Earth Retention and Stability*

3 unit(s)

Design of classic retaining walls using lateral earth pressure theory; Slope stability of earthen embankments, cut slopes and natural slopes; Design of modern earth-retention systems, including soil nails, mechanically-stabilized earth walls, soil anchors, etc.

**Prerequisite(s):** CE 140 or instructor consent

**Grading:** Graded

*CE 248 - Forensic Engineering and Failure Analysis*

3 unit(s)

Analysis of civil engineering failures. Investigation into causes of failure, implications of failure and lessons learned from failure. Legal obligations and responsibilities of ethical engineers.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*CE 250 - Modeling in Water Resources Engineering*

3 unit(s)

Technical, economic, legal, political, environmental and social factors in decision-making in water project planning and water resources development and management.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 251 - Hydraulics of Open Channels*

3 unit(s)

Conveyance curves, the varied flow equation, specific energy, channel transitions, waves, routing of floods and super-critical flow.

**Prerequisite(s):** ME 111; MATH 33A or instructor consent.

**Grading:** Graded

*CE 252 - Advanced Hydrology*

3 unit(s)

Advanced topics in hydrograph analysis, flood routing, statistical methods and groundwater flow.

**Prerequisite(s):** CE 150 and CE 152.

**Grading:** Graded

*CE 254 - Water Resources Systems Management*

3 unit(s)

Various modeling techniques for optimal planning and operation of water resources systems, which involve many random variables.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 150 or instructor's consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 255 - Sediment Transport*

3 unit(s)

Introduction to sediment transport; concepts of bedload, suspended load, bed formation, stable channels and regime theory; environmental issues.

**Prerequisite(s):** CE 150.

**Grading:** Graded

*CE 256 - Sustainable Water Resources Engineering*

3 unit(s)

Water use, water-energy nexus, water excess management, environmental impact assessment, risk-based analysis, and water resources management.

**Prerequisite(s):** CE 150 or instructor's consent.

**Grading:** Graded

*CE 258 - GIS Applications in Water Resources Engineering*

3 unit(s)

Geographic Information Systems (GIS) Applications in hydrology and water supply, spatial analysis, Digital Elevation Model (DEM), pre and post processing of hydrologic model

**Prerequisite(s):** CE 150 or instructor consent

**Grading:** Graded

*CE 260 - Matrix Analysis of Structures*

3 unit(s)

Linear static and dynamic analysis of structures by matrix methods, including sidesway of frames and multistory buildings. Introduction to finite element analysis of structural systems. Discussion of computer-aided design of structures.

**Prerequisite(s):** CE 160 (or equivalent).  
**Grading:** Graded

*CE 261 - Advanced Structural Concrete Design*

3 unit(s)

Design of beams, columns, slabs, walls and connections according to provisions of the American Concrete Institute. Advanced topics in compression elements, shear torsion and development. Elements of bridge and building systems.

**Prerequisite(s):** CE 160 and CE 162 (or equivalent).  
**Grading:** Graded

*CE 264 - Prestressed Concrete Design*

3 unit(s)

Basic concepts and history; pretensioned and post-tensioned systems; prestress losses; cracking and ultimate moments; design of simple spans, continuous spans and slabs; composite beams; tanks.

**Prerequisite(s):** CE 160 and CE 162 (or equivalent).  
**Grading:** Graded

*CE 265 - Advanced Seismic Design*

3 unit(s)

Design of frames, shear walls and other building systems to resist earthquake accelerations. Applications of dynamic analysis. Introduction to performance-based engineering.

**Corequisite(s):** CE 212 or instructor consent.  
**Grading:** Graded

*CE 267 - Advanced Steel Design*

3 unit(s)

LRFD (Load Resistant Design) of steel structures, including buildings and bridges. Detailing of steel frames for seismic resistance. Structural details of connections.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CE 163 or instructor consent.  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 269 - Advanced Topics in Structural Design*

3 unit(s)

Concepts in reinforced masonry, seismic isolation, structural retrofitting, computer aided design and modern construction materials. Topics to be specified at beginning of semester. May be repeated for credit when content changes.

**Grading:** Graded



*CE 270 - Environmental Engineering Process Kinetics*

3 unit(s)

Process kinetics in drinking water and wastewater treatment.

**Prerequisite(s):** CE 170

**Grading:** Graded

*CE 271 - Physical/Chemical Processes in Environmental Pollution Control*

3 unit(s)

Theory, analysis and engineering design of physical and chemical systems in environmental pollution control. Topics include mechanisms involved in physical/chemical destruction of pollutants, clarification, softening, coagulation and others.

**Prerequisite(s):** CE 170 or instructor consent.

**Grading:** Graded

*CE 272 - Biological Processes in Environmental Pollution Control*

3 unit(s)

Theory, analysis and engineering design of biological systems in environmental pollution control. Topics include mechanism of biological destruction of pollutants, aerobic and anaerobic processes, nutrient removals and others.

**Prerequisite(s):** CE 170 or instructor consent.

**Grading:** Graded

*CE 273 - Water Treatment and Plant Design*

3 unit(s)

Studies in the theory, design and operation of water treatment facilities. Water quality standards and water quality control.

**Prerequisite(s):** CE 170 or instructor consent.

**Grading:** Graded

*CE 274 - Wastewater Treatment and Plant Design*

3 unit(s)

Studies in the theory, design and operation of traditional primary and secondary sewage treatment facilities. Review of water pollution control laws and regulations.

**Prerequisite(s):** CE 170 or instructor consent.

**Grading:** Graded

*CE 275 - Industrial and Hazardous Waste Management and Treatment*

3 unit(s)

Study of industrial and hazardous wastes. Sources, characteristics, management, treatment and disposal. Effects on the environment.

**Prerequisite(s):** CE 170 or instructor consent.

**Grading:** Graded

*CE 276 - Management and Reuse of Process Solids*

3 unit(s)

Solids production at water and wastewater treatment plants, types, characteristics, processing, management and reuse including biofuel production from wastewater biosolids, and disposal of residual matter.

**Prerequisite(s):** CE 271 and CE 272.

**Grading:** Graded

*CE 277 - Environmental Sustainability*

3 unit(s)

Studies of various engineering design and practices for sustainable environment.

**Prerequisite(s):** CE 170 or Instructor Consent

**Grading:** Graded

*CE 279 - Special Topics in Environmental Engineering*

3 unit(s)

Current problems in environmental engineering. Course is repeatable for credit with instructor consent.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CE 297 - Special Topics in Civil Engineering*

1-4 unit(s)

Special topics to augment regularly-scheduled graduate courses.

**Grading:** Graded

*CE 298 - Special Problems*

1-6 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CE 299 - Master's Thesis or Project*

1-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the MS degree. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

# Department of Computer Engineering

**Office:** Engineering Building 284

**Telephone:** 408-924-4150 (Voice); 408-924-4153 (Fax)

**Email:** computer-engineering@sjsu.edu

**Website:** cmpe.sjsu.edu

## Professors

Ahmet Bindal  
Magdalini Eirinaki  
Rod Fatoohi  
Mohamed Fayad  
Jerry Z. Gao  
Donald Hung  
Harry Li  
Haluk Ozemek  
Simon Shim  
Xiao Su, Chair  
Weider Yu

## Associate Professors

Younghee Park

## Assistant Professors

Gheorghi Guzun  
Hyeran Jeon  
Nima Karimianbahnemiri  
Kaikai Liu  
Carlos Rojas  
Gokay Saldamli  
Mahima Agumbe Suresh  
Wencen Wu

## Overview

Located in the center of Silicon Valley, the Department of Computer Engineering provides local and national high-tech companies with high quality, practice-oriented computer graduates. Bachelor's degree programs are offered in computer engineering and software engineering. Master's degree programs are offered in computer engineering, software engineering, and artificial intelligence. Course topics range from computer hardware design and embedded systems to software design and construction of real-time systems, virtual systems, and enterprise software. Curriculum integrates concepts and hands-on practice using the latest developments in emerging technologies, design, verification, implementation, and computer systems applications to provide students with advanced hardware and software skills. High-tech companies seek out our graduates. Our alumni work in hardware/software analysis, design and verification, hardware/software co-design, systems software, domain applications and product testing at many Silicon Valley firms from start-ups to Fortune 100 companies. The undergraduate degree in Computer Engineering and Software Engineering are accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

# Undergraduate

## Computer Engineering, BS

- Department of Computer Engineering
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 21

Major Preparation 33

Major Requirements 66

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". The following Preparation for the Major courses must be completed with a grade of "C or better": MATH 30, MATH 31, PHYS 50 and PHYS 51.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (21 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

### Physical Education

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- ENGR 100W - Engineering Reports 3 unit(s) (Z+R)

### Major Preparation (33 units)

*Students must complete the following courses with "C" or better to graduate: MATH 30, MATH 31, PHYS 50, PHYS 51. The remaining courses in Preparation for the Major must be completed with "C-" or better to graduate.*

- BIOL 10 - The Living World 3 unit(s) (B2)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2) (or equivalent second semester composition course.)
- ISE 130 - Engineering Probability and Statistics 3 unit(s)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- MATH 42 - Discrete Mathematics 3 unit(s)
- MATH 33LA - Differential Equations and Linear Algebra 3 unit(s)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)

### Major Requirements (66 units)

*Students must complete all the courses in Core Courses, Required Courses and Approved Upper Division Electives sections with "C-" or better to graduate.*

### Core Courses (13 units)

- CMPE 30 - Programming Concepts and Methodology 3 unit(s)
- CMPE 50 - Object-Oriented Concepts and Methodology 3 unit(s)
- ENGR 10 - Introduction to Engineering 3 unit(s) (E)
- EE 97 - Introductory Electrical Engineering Laboratory 1 unit(s)
- EE 98 - Introduction to Circuit Analysis 3 unit(s)

## Required Courses (46 units)

*Note: Must complete CMPE 195A/CMPE 195B and ENGR 195A/ENGR 195B with C or Better to meet GE Area requirements.*

- CMPE 102 - Assembly Language Programming 3 unit(s)
- CMPE 110 - Electronics for Computing Systems 3 unit(s)
- CMPE 124 - Digital Design I 3 unit(s)
- CMPE 125 - Digital Design II 3 unit(s)
- CMPE 126 - Algorithms and Data Structure Design 3 unit(s)
- CMPE 127 - Microprocessor Design I 3 unit(s)
- CMPE 130 - Advanced Algorithm Design 3 unit(s)
- CMPE 131 - Software Engineering I 3 unit(s)
- CMPE 140 - Computer Architecture and Design 3 unit(s)
- CMPE 142 - Operating Systems Design 3 unit(s)
- CMPE 146 - Real-Time Embedded System Co-Design 3 unit(s)
- CMPE 148 - Computer Networks I 3 unit(s)
- CMPE 152 - Compiler Design 3 unit(s)
- CMPE 195A - Senior Design Project I 2 unit(s) (S)
- CMPE 195B - Senior Design Project II 3 unit(s) (V)
- ENGR 195A - Global and Social Issues in Engineering 1 unit(s) (S)
- ENGR 195B - Global and Social Issues in Engineering 1 unit(s) (V)

## Approved Upper Division Electives (7 units)

Selected in consultation with the student's advisor

## Total Units Required (120 units)

## Software Engineering, BS

- Department of Computer Engineering
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	21
Major Preparation	33
Major Requirements	66

**Total** **120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Required in Major (all courses in preparation, core, and concentration) must be completed with a grade of "C- or better". The following Preparation for the Major courses must be completed with a grade of "C or better": MATH 30, MATH 31, and PHYS 50.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (21 units)**

### **Core Lower Division General Education (6 units)**

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education**

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (12 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 *6 unit(s) (M4)*
- AMS 1B - American Cultures 1877 to present *6 unit(s) (M5)*

## Physical Education

- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)

## Major Preparation (33 units)

*Students must complete the following courses with "C" or better to graduate: MATH 30, MATH 31, PHYS 50. The remaining courses in Preparation for the Major must be completed with "C-" or better to graduate.*

- BIOL 10 - The Living World 3 *unit(s)* (B2)
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 42 - Discrete Mathematics 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

## Complete One Course From:

- MATH 33LA - Differential Equations and Linear Algebra 3 *unit(s)*
- MATH 142 - Introduction to Combinatorics 3 *unit(s)*

## Complete One Course From:

- ISE 130 - Engineering Probability and Statistics 3 *unit(s)*
- MATH 161A - Applied Probability and Statistics I 3 *unit(s)*

## Major Requirements (66 units)

*Students must complete all the courses in Core Courses, Required Courses and Approved Upper Division Electives sections with "C-" or better to graduate.*

## Core Courses (11 units)

- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)



## Required Courses (49 units)

*Note: Must Complete CMPE 195A/CMPE 195B and ENGR 195A/ENGR 195B with C or Better to meet GE Area requirements*

- CMPE 102 - Assembly Language Programming 3 unit(s)
- CMPE 120 - Computer Organization and Architecture 3 unit(s)
- CMPE 131 - Software Engineering I 3 unit(s)
- CMPE 133 - Software Engineering II 3 unit(s)
- CMPE 148 - Computer Networks I 3 unit(s)
- CMPE 165 - Software Engineering Process Management 3 unit(s)
- CMPE 172 - Enterprise Software Platforms 3 unit(s)
- CMPE 187 - Software Quality Engineering 3 unit(s)
- CMPE 195A - Senior Design Project I 2 unit(s) (S)
- CMPE 195B - Senior Design Project II 3 unit(s) (V)
- ENGR 195A - Global and Social Issues in Engineering 1 unit(s) (S)
- ENGR 195B - Global and Social Issues in Engineering 1 unit(s) (V)
- CS 146 - Data Structures and Algorithms 3 unit(s)
- CS 149 - Operating Systems 3 unit(s)
- CS 151 - Object-Oriented Design 3 unit(s)
- CS 157A - Introduction to Database Management Systems 3 unit(s)
- CS 166 - Information Security 3 unit(s)
- ISE 164 - Computer and Human Interaction 3 unit(s)

## Approved Upper Division Electives (6 units)

Selected in consultation with the student's advisor

## Total Units Required (120 units)

## Master

### Artificial Intelligence, MS

- Admissions Requirements
- Advancement to Candidacy
- Requirements for Graduation
- Master's Requirements (33 units)
- Program Learning Outcomes

MS in Artificial Intelligence program provides students with a state-of-the-art educational experience to become outstanding, socially responsible engineers of AI systems. Students will learn the theoretical foundations and gain practical skills to manage and engineer various data forms, to make predictive analyses, to derive actionable insights and develop intelligent hardware and software systems and related, cutting-edge AI technologies. The program will draw on insights from mathematics, statistical analysis, computer science, software engineering and systems engineering and is, therefore, best suited for students with software/computer engineering, computer science, mathematics, and closely related backgrounds.

**Program Website:** [cmpe.sjsu.edu](http://cmpe.sjsu.edu).

## Program Learning Outcomes (PLOs)

Students will be able to:

1. Identify and apply fundamental concepts, algorithms, and methodologies to formulate, analyze, design, and evaluate artificial intelligence and machine learning systems;
2. Tackle complex machine learning and artificial intelligence problems using contemporary principles, algorithms, technologies, methodologies, and tools;
3. Lead and participate in a team to develop AI and machine learning applications;
4. Recognize the ethical, economic and environmental implications of their work, as appropriate;
5. Sustain a process of life-long learning in engineering or other professional areas; and,
6. Communicate effectively and persuasively with a variety of audiences.

## Admission Requirements

Candidates must meet all university admission requirements. Applicants can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. These courses will not count as part of the master's degree program requirements.

For acceptance by the Department of Computer Engineering, the applicant must satisfy the following requirements:

1. Undergraduate degree in math, physics, computer science, engineering, or a closely related field, equivalent to a four-year U.S. undergraduate baccalaureate degree, with demonstrated college-level courses in programming, data structures, algorithm design, three-semester sequence of calculus, linear algebra and statistics.
2. Undergraduate GPA of 3.0 or higher.
3. If undergraduate program is not ABET accredited, GRE is required with minimum GRE q+v of 294 and GRE AWA of 3.0. GRE q+v minimum higher than 294 may be required for successful admission depending on the number of applicants.
4. International applicants must meet SJSU's minimum requirements on English-language proficiency tests.

## Advancement to Candidacy

Students may advance to candidacy after completing all admission conditions and all prerequisites for the culminating experience including the Graduation Writing Assessment Requirement (GWAR).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies & Procedures.

## Masters Requirements (33 units)

### Core Courses (9 units)

- CMPE 252 - Artificial Intelligence and Data Engineering 3 *unit(s)*
- CMPE 255 - Data Mining 3 *unit(s)*
- ISE 201 - Math Foundations for Decision and Data Sciences 3 *unit(s)*

### Elective Courses (15 units)

Complete 5 courses:

- CMPE 214 - GPU Architecture and Programming 3 *unit(s)*
- CMPE 249 - Intelligent Autonomous Systems 3 *unit(s)*
- CMPE 256 - Web and Big Data Mining 3 *unit(s)*
- CMPE 257 - Machine Learning 3 *unit(s)*
- CMPE 258 - Deep Learning 3 *unit(s)*
- CMPE 266 - Big Data Engineering and Analytics 3 *unit(s)*
- CMPE 297 - Special Topics in Computer/Software Engineering 3 *unit(s)*
- ISE 244 - AI Tools and Practice for Systems Engineering 3 *unit(s)*

### Graduate Writing Requirement (3 units)

Students must pass the Graduation Writing Assessment Requirement (GWAR).

- CMPE 294 - Computer Engineering Seminar 3 *unit(s)* (GWAR) (recommended)
- ENGR 200W - Engineering Reports and Graduate Research 3 *unit(s)*

### Culminating Experience (6 units)

All students must complete one of the following culminating experiences: thesis or project. Theses and projects are completed under the supervision of an advisor.

#### Plan A (Thesis)

A master's thesis includes original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It undergoes a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

#### Plan B (Project)

A master's project is a research or development effort performed by a student individually on a topic chosen by mutual agreement between an advisor and the student. The choice of project topic is also approved by the Graduate Advisor. The individual student projects could be distinct components of a larger integrated project performed by a team of students. At the end of CMPE 295B, a project report is submitted for department review, and students present their project work in a department project exposition.

## Computer Engineering, MS

The MS-CMPE program provides students with an educational experience that combines electrical engineering and computer science with the best of academia, the high-tech industry, and Silicon Valley. The high-tech industry increasingly requires engineers to be equipped with both hardware and software development knowledge and skills. The program provides in-class theory with hands-on hardware design and software development exercises to give students the skills necessary to create contemporary microelectronic products that are typically embedded computing systems containing both hardware and software. Graduates with an MS in Computer Engineering can expect to find significant opportunities in digital and computer hardware design and verification, system-level software development, and prototyping and testing as well as technical support and marketing.

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

For more information, visit [cmpe.sjsu.edu/content/masters-in-computer-engineering](http://cmpe.sjsu.edu/content/masters-in-computer-engineering).

## Educational Objectives of the Graduate Program

To provide MSCMPE graduates with

1. advanced knowledge of the practice of computer engineering, from vision to analysis, design, validation, and deployment.
2. the ability to tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies, and tools.
3. leadership skills and the ability to participate in teamwork in an environment with people of different disciplines of engineering, science, and business.
4. understanding of the ethical, economic and environmental implications of their work, as appropriate.
5. the ability to advance successfully in the engineering profession and sustain a process of life-long learning in engineering or other professional areas.
6. the ability to communicate effectively in both oral and written forms.

## Admissions Requirements

Candidates must meet all university admissions requirements. Applicants can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. These courses will not count as part of the master's degree program requirements.

For acceptance by the Department of Computer Engineering, the applicant must satisfy the following requirements:

1. **Academic Background**  
An applicant must have a degree equivalent to a four-year U.S. undergraduate baccalaureate degree with a GPA of 3.25 (B+) or higher in a computer-hardware related field, such as computer engineering or electrical engineering. Those with backgrounds and interests in software development should consider the MS in Software Engineering program. They will receive lower priority in admissions into the MS-Computer Engineering program than those with hardware backgrounds and interests.
2. **Standard Test Scores**  
An applicant without a baccalaureate degree from an accredited university in the United States must meet

SJSU's minimum requirements on an English-Language Proficiency Exam (TOEFL or equivalent; please visit the Graduate Program Test Requirements website at GAPE for more information). The GRE is required of any applicant whose bachelor's degree was from a non-ABET-accredited program or whose bachelor's degree GPA was beneath 3.0. Under rare circumstances, usually involving a minimum of 5 years of employment in hardware development, applicants are eligible for a waiver of the GRE test requirement.

## Requirements for Advancement to Graduate Candidacy

Students may advance to candidacy after completing all admission conditions and all prerequisites for the culminating experience (refer to the MS-CMPE Student Handbook) including the Graduation Writing Assessment Requirement (GWAR). CMPE 294 satisfies the requirement in this program, although ENGR 200W will also be accepted. If a student qualifies for a university-approved GWAR waiver, they must select an additional elective class to achieve the 33-unit program requirement.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Computer Engineering Graduation Requirements

To obtain an MS degree in Computer Engineering, a student must meet the following requirements:

1. achieve a classified student status, i.e., a conditionally admitted student must meet the admission conditions specified in the student's admission letter;
2. complete all course requirements leading up to the culminating experience courses, as listed below.
3. complete 33 semester units of 200-level courses with a cumulative GPA of 3.0 or better. At least 27 units must be 200-level Computer Engineering courses.

Undergraduate coursework does not count towards the master's degree. Students may enhance their degree by adding internships (CMPE 298I) to their plan of study.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing CMPE 294 or ENGR 100W.*

### Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experiences: thesis or project. Theses and projects are completed under the supervision of an advisor.

### **Plan A (Thesis)**

A master's thesis includes original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It undergoes a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### **Plan B (Project)**

A master's project is a research or development effort performed by a student individually on a topic chosen by mutual agreement between an advisor and the student. The choice of project topic is also approved by the Graduate Advisor. The individual student projects could be distinct components of a larger integrated project performed by a team of students. At the end of CMPE 295B, a project report is submitted for department review, and students present their project work in a department project exposition.

## **Masters Requirements (33 units)**

### **Core (12 units)**

- CMPE 200 - Computer Architecture *3 unit(s)*
- CMPE 220 - System Software *3 unit(s)*
- CMPE 240 - Advanced Computer Design *3 unit(s)*

### **GWAR (3 units)**

Complete one course (CMPE 294 is recommended):

- CMPE 294 - Computer Engineering Seminar *3 unit(s)*
- ENGR 200W - Engineering Reports and Graduate Research *3 unit(s)*

### **Area of Specialization (9 units)**

Complete three courses in one of the specializations:

#### **System Design and Verification**

- CMPE 212 - System Verification *3 unit(s)*
- CMPE 264 - Advanced Digital and Computing System Design *3 unit(s)*
- CMPE 297 - Special Topics in Computer/Software Engineering *3 unit(s)*

#### **Network Systems**

- CMPE 206 - Computer Network Design *3 unit(s)*
- CMPE 207 - Network Programming and Application *3 unit(s)*
- CMPE 208 - Network Architecture and Protocols *3 unit(s)*
- CMPE 209 - Network Security *3 unit(s)*

## Embedded Systems

- CMPE 242 - Embedded Hardware Design 3 *unit(s)*
- CMPE 243 - Embedded Systems Applications 3 *unit(s)*
- CMPE 244 - Embedded Software 3 *unit(s)*
- CMPE 245 - Embedded Wireless Architecture 3 *unit(s)*
- CMPE 265 - High Speed Digital System Design 3 *unit(s)*

## Secure Systems

- CMPE 209 - Network Security 3 *unit(s)*
- CMPE 279 - Software Security Technologies 3 *unit(s)*
- CMPE 287 - Software Quality Assurance and Testing 3 *unit(s)*

## Data Science

- CMPE 255 - Data Mining 3 *unit(s)*
- CMPE 257 - Machine Learning 3 *unit(s)*
- CMPE 258 - Deep Learning 3 *unit(s)*

## Approved Electives (6 units)

Six units of any 200-level CMPE courses except 295 or 299 culminating experience classes, 298, or 298i. Also permitted are 200-level classes from Engineering or Science disciplines selected in consultation with the MS-CMPE Graduate Advisor.

## Culminating Experience (6 units)

### Complete One Option (Plan A or Plan B)

#### Plan A (Thesis) (6 units)

- CMPE 299A - Master Thesis I 3 *unit(s)*
- CMPE 299B - Master Thesis II 3 *unit(s)*

#### Plan B (Project) (6 units)

- CMPE 295A - Master Project I 3 *unit(s)*
- CMPE 295B - Master Project II 3 *unit(s)*

## Total Units Required (33 units)

Elective courses must be planned in consultation with the Graduate Advisor.

If the student qualifies for a university-approved GVAR waiver, they may elect to substitute the CMPE 294 (or ENGR 200W) requirement with an elective.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Software Engineering, MS

- Educational Objectives of the Graduate Program
- Admissions Requirements
- Requirements for Advancement to Graduate Candidacy
- Requirements for Graduation
- Master's Requirements (33 units)
- Program Learning Outcomes

The MSSE program, offered by the Department of Computer Engineering, provides students with an educational experience that builds on traditional computer science and engineering and takes an integrative approach to software engineering. The program integrates the forces shaping software development, including emerging technologies, with the understanding of rapidly changing technologies and architectures and their influence on software engineering processes, where large-scale design is pre-eminent, service and component integration is the standard mode of development, and there is increased globalization of the software development workforce.

The program offers specializations in *Enterprise Software Technologies, Cloud Computing and Virtualization, Software Systems Engineering, Data Science, Cybersecurity and Networking Software.*

Class schedules are designed for the convenience of employed engineers who wish to pursue graduate work on a part-time basis.

The MSSE Program welcomes students with undergraduate degrees in other engineering or science disciplines and that have strong programming skills.

**Program Website:** [www.sjsu.edu/msse](http://www.sjsu.edu/msse).

## Educational Objectives of the Graduate Program

To provide MSSE graduates with the ability to:

1. Acquire advanced knowledge of the practice of software engineering, from vision to analysis, design, validation, and deployment.
2. Tackle complex engineering problems and tasks, using contemporary engineering principles, methodologies, and tools.
3. Demonstrate leadership and the ability to participate in teamwork in an environment with different disciplines of engineering, science, and business.
4. Understand the ethical, economic, and environmental implications of their work, as appropriate;
5. Advance successfully in the engineering profession and sustain a process of life-long learning in engineer or other professional areas.
6. Communicate effectively in both oral and written forms.

## Admissions Requirements



Candidates must meet all university admissions requirements. Applicants can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

Applicants may be considered for admission with conditionally classified standing if they have a BS degree in any engineering or science discipline from an accredited institution. Students with conditionally classified standing will take a series of core programming courses based on their evaluation by the MSSE Graduate Advisor.

For admission with classified standing, an applicant must possess a BSSE or BSCS degree from an accredited institution with a grade point average of 3.0 or better.

The admission letter will explain required coursework, terms and conditions for removing deficiencies and attaining classified standing.

GRE scores must be submitted if an applicant's bachelor's degree is not from an ABET-accredited U.S. university degree program. Under some circumstances, a waiver of the GRE test requirement will be granted. Descriptions of the minimum GRE scores acceptable for admission and the conditions for waiver are listed on the admissions requirements webpage. In addition, applicants who do not possess a degree from a U.S. university must achieve a minimum English-language proficiency test score as indicated on the GAPE website.

## Requirements for Advancement to Graduate Candidacy

Students may advance to candidacy after completing all prerequisites assigned during admissions, the degree core courses, specialization courses, and the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MSSE program course requirements and the links to specialization course requirements are listed at [www.sjsu.edu/msse](http://www.sjsu.edu/msse).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Software Engineering Graduation Requirements

The Computer Engineering Department offers courses designed to provide a flexible curriculum structure that allows students to follow a course of study to meet their individual career goals. As shown below, the program consists of 33 semester units of 200-level courses with a cumulative GPA of 3.0 or better. At least 27 units must be 200-level software engineering courses, and undergraduate coursework will not count towards the master's degree unless approved by the MSSE Graduate Advisor. A detailed description of elective class requirements can be found at [www.sjsu.edu/msse](http://www.sjsu.edu/msse). Students may further their degree by adding internships (CMPE 298I) to their plan of study.

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing CMPE 294 or ENGR 200W or CMPE 295W.*

## Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experiences: thesis or project. Theses and projects are completed under the supervision of an advisor.

### Plan A (Thesis)

A master's thesis includes original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It undergoes a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (Project)

A master's project is a research or development effort performed by a student individually on a topic chosen by mutual agreement between an advisor and the student. The choice of project topic is also approved by the Graduate Advisor. The individual student projects could be distinct components of a larger integrated project performed by a team of students. At the end of CMPE 295B, a project report is submitted for department review, and students present their project work in a department project exposition.

## Master's Requirements (33 units)

### Common Core (12 units)

- CMPE 202 - Software Systems Engineering 3 unit(s)
- CMPE 272 - Enterprise Software Platforms 3 unit(s)
- CMPE 255 - Data Mining 3 unit(s)

### GWAR (3 units)

- CMPE 294 - Computer Engineering Seminar 3 unit(s) (GWAR)
- CMPE 295W - Master Project 3 unit(s) (GWAR)
- ENGR 200W - Engineering Reports and Graduate Research 3 unit(s) (GWAR)

### Area of Specialization (6 units)

Complete two courses from one of the specializations:

#### Enterprise Software Technologies

- CMPE 273 - Enterprise Distributed Systems 3 unit(s)

- CMPE 275 - Enterprise Application Development 3 *unit(s)*

## Cloud Computing and Virtualization

- CMPE 281 - Cloud Technologies 3 *unit(s)*
- CMPE 283 - Virtualization Technologies 3 *unit(s)*

## Software Systems Engineering

- CMPE 285 - Software Engineering Processes 3 *unit(s)*
- CMPE 287 - Software Quality Assurance and Testing 3 *unit(s)*

## Networking Software

- CMPE 206 - Computer Network Design 3 *unit(s)*
- CMPE 207 - Network Programming and Application 3 *unit(s)*

## Data Science

- CMPE 257 - Machine Learning 3 *unit(s)*
- CMPE 258 - Deep Learning 3 *unit(s)*

## Cybersecurity

- CMPE 209 - Network Security 3 *unit(s)*
- CMPE 279 - Software Security Technologies 3 *unit(s)*

## Approved Electives (9 units)

Elective classes can be any 200-level CMPE course except 295 or 299 culminating experience classes, 298, or 298i. Also permitted are 100-level or 200-level courses from Engineering or Science disciplines selected in consultation with the MSSE Graduate Advisor. One elective must be a specialization core class from a specialization other than the student's declared specialization.

## Culminating Experience (6 units)

Complete one option (Plan A or Plan B):

### Plan A (Thesis)

- CMPE 299A - Master Thesis I 3 *unit(s)*
- CMPE 299B - Master Thesis II 3 *unit(s)*

### Plan B (Project)

- CMPE 295A - Master Project I 3 *unit(s)*

- or
- CMPE 295W - Master Project 3 *unit(s)* ; **and**,
- CMPE 295B - Master Project II 3 *unit(s)*

## Total Units Required (33 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Cybersecurity Engineering Certificate (Graduate)

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 12-unit Cyber Security Engineering (CSE) Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the certificate program cover mobile-based software system, advanced topics, and project experience in information security.

#### Certificate Core

- CS 265 - Cryptography and Computer Security 3 *unit(s)*
- CMPE 235 - Mobile Software System Design 3 *unit(s)*
- CMPE 295B - Master Project II 3 *unit(s)*

#### Complete One Course From:

- CMPE 295A - Master Project I 3 *unit(s)*
- CMPE 295W - Master Project 3 *unit(s)* (GWAR)

## Total Units Required (12 units)

### Cybersecurity Foundations Certificate (Undergraduate)

The Computer Engineering program offers an 18-unit certificate program to students seeking career opportunities in cyber security. The program aligns with the nationally defined knowledge areas and prepares the students with well-grounded fundamentals to become a professional in cyber security.

#### Certificate Core

- CMPE 130 - Advanced Algorithm Design 3 *unit(s)*

- CMPE 132 - Information Security 3 *unit(s)*
- CMPE 138 - Database Systems I 3 *unit(s)*
- CMPE 142 - Operating Systems Design 3 *unit(s)*

### Complete One Course From:

- CMPE 148 - Computer Networks I 3 *unit(s)*
- CS 158A - Computer Networks 3 *unit(s)*

### Complete One Course From:

- CMPE 181 - Internet of Things Platforms 3 *unit(s)*
- CMPE 182 - Internet of Things Security 3 *unit(s)*
- CS 158B - Computer Network Management 3 *unit(s)*

### Total Units Required (18 units)

## Secure Software Engineering Certificate (Graduate)

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 9-unit Secure Software Engineering (SSE) Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the certificate program cover critical aspects in security domain, including network security, software security, and cyber risk management.

### Certificate Core

- CMPE 209 - Network Security 3 *unit(s)*
- CMPE 272 - Enterprise Software Platforms 3 *unit(s)*
- CMPE 279 - Software Security Technologies 3 *unit(s)*

### Total Units Required (9 units)

## Secure Test Engineering Certificate (Graduate)

With the global threats of cyber-crime, our nation's continued security and economic prosperity depend on the availability of increasing cyber security workforce. The Computer Engineering Department offers a 9-unit Secure Test Engineering (STE) Certificate program to students who seek career opportunities in cyber security and information assurance. The courses in the program cover the fundamentals in the design of secure software systems, including software systems engineering, quality assurance, and enterprise platforms.

### Certificate Core

- BUS 248 - Cyber Risk Management 3 *unit(s)*
- CMPE 202 - Software Systems Engineering 3 *unit(s)*

- CMPE 287 - Software Quality Assurance and Testing 3 unit(s)

## Total Units Required (9 units)

### *CMPE 30 - Programming Concepts and Methodology*

3 unit(s)

Introduction to programming; overview of computer organization and introduction to software engineering. Topics include methodologies for program design, development, style, testing, and documentation; algorithms, control structures, functions, and elementary data structures.

*Lecture 2 hours/lab 3 hours.*

**Corequisite(s):** MATH 30 or MATH 30X or equivalent.

**Grading:** Graded

### *CMPE 50 - Object-Oriented Concepts and Methodology*

3 unit(s)

Application of object-oriented software engineering techniques to the design and development of larger programs; data abstraction, structures, classes and associated algorithms.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CMPE 30 with a minimum grade of "C-". Computer Engineering and Software Engineering Majors only.

**Grading:** Graded

### *CMPE 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

### *CMPE 102 - Assembly Language Programming*

3 unit(s)

Assembly programming; assembly-C interface; CPU and memory organization; addressing modes; arithmetic, logic and branch instructions; arrays, pointers, subroutines, stack and procedure calls; software interrupts; multiplication, division and floating point arithmetic.

**Prerequisite(s):** CMPE 50 or CS 46B (with grade of "C-" or better) Sophomore or upper division standing. Allowed Declared Majors: Computer Engineering, Software Engineering.

**Grading:** Graded

### *CMPE 110 - Electronics for Computing Systems*

3 unit(s)

RC, RL and RLC circuit analysis, diodes and diode circuits, MOSFET and bipolar transistor I-V characteristics and circuits, CMOS logic circuits, CMOS-TTL interface, sensors and signal conditioning circuits using operational amplifiers, A/D and D/A converters, electromechanical device control.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** EE 97, EE 98, MATH 33LA, all with a grade of "C" or better. Allowed Declared Majors: Computer Engineering and Software Engineering.

**Grading:** Graded

*CMPE 120 - Computer Organization and Architecture*

*3 unit(s)*

Introduction to computer organization and architecture, system buses, internal memory and external memory, input/output, central processing unit CPU, instruction sets, CPU structure and function, RISC, control unit.

**Prerequisite(s):** CMPE 50 or CS 46B (with a grade of "C-" or better). Computer Engineering and Software Engineering Majors Only.

**Grading:** Graded

*CMPE 124 - Digital Design I*

*3 unit(s)*

Combinational and sequential logic theory and circuits. Emphasis on mixed logic and algorithmic state machines. Design projects using standard integrated circuit packages.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** EE 97 and EE 98 (both with C or better). Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 125 - Digital Design II*

*3 unit(s)*

Digital system building blocks, data path and control units, system-level RTL design, Verilog HDL for design and verification, contemporary design flow and methodology, lab experiments using industry standard CAD tools and field programmable gate array (FPGA) devices.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CMPE 124 (with grade of "C-" or better). Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 126 - Algorithms and Data Structure Design*

*3 unit(s)*

Object-oriented data organization and representation as strings, arrays, stacks, queues, dequeues, lists, sets, trees, tables, and graphs. Sorting and searching and algorithm design and performance analysis.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** ENGR 10, CMPE 50, and MATH 42 or MATH 42X (all with a grade of "C-" or better). Allowed Declared Majors: Computer Engineering or Software Engineering.

**Grading:** Graded

*CMPE 127 - Microprocessor Design I*

3 unit(s)

Microprocessor architecture and assembly language. Design of peripheral blocks and their interfaces to the microprocessor. Design projects using standard integrated circuit packages.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CMPE 124 with a grade of "C-" or better; Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 130 - Advanced Algorithm Design*

3 unit(s)

Design and analysis of data structures and algorithms. Advanced tree structures, hashing, searching and sorting. Divide-and-conquer, greedy and dynamic programming algorithm design techniques.

**Prerequisite(s):** CMPE 126, ISE 130 (with grades of "C-" or better). Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 131 - Software Engineering I*

3 unit(s)

Why software engineering? What is software engineering? Software development lifecycle activities: project planning and management requirements analysis, requirement specification. Software design, software testing, verification, validation, and documentation. Software quality assurance and review techniques, software maintenance, team-based projects.

**Prerequisite(s):** CMPE major: CMPE 126 (C- or better); SE major: CS 46B (C- or better); other majors: CMPE 30, and MATH 32 or MATH 32X (C- or better).

**Grading:** Graded

*CMPE 132 - Information Security*

3 unit(s)

A study of computer and network security from centralized systems to distributed networks. Cryptology, vulnerabilities and controls. Firewalls, privacy enhanced e-mail, viruses and worms. Case studies will be featured.

**Prerequisite(s):** CMPE 126. Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 133 - Software Engineering II*

3 unit(s)

Software Architecture, Software Technical Metrics, evaluating products, processes, and resources, improving predictions, products, processes, and resources. Advanced topics such as: Formal Methods, Software Reuse, Reengineering, Client/Server Software Engineering, Computer-Aided Software Engineering, Team-Based Projects.

**Prerequisite(s):** CMPE 131 with a grade of "C-" or better

**Grading:** Graded



*CMPE 135 - Object-Oriented Analysis and Design*

3 unit(s)

Feasibility analysis and system requirements determination, object-oriented design methodology, and information systems design using object-oriented modeling techniques. Emphasis on both theoretical and practical aspects of object-oriented systems analysis and design. Team-based design project.

**Prerequisite(s):** For SE Majors: CS 46B or for others CMPE 126. See SJSU Catalog for detail list of prerequisites  
**Grading:** Graded

*CMPE 137 - Wireless Mobile Software Engineering*

3 unit(s)

Mobility analysis, design principles, techniques, and methods for software systems on a variety of wireless and mobile Internet based computing and communication platforms, such as advanced pocket/tablet PCs, GPS, Bluetooth, Infrared, Wi-Fi, and RFID. Design multi-disciplined mobile project.

**Prerequisite(s):** CMPE 131. Computer Engineering or Software Engineering Majors Only.  
**Grading:** Graded

*CMPE 138 - Database Systems I*

3 unit(s)

File organization and storage structure, database system architecture, entity relationship model, normalization techniques, SQL, relational algebra, storage organization, query processing, and concurrency control.

**Prerequisite(s):** CMPE 126 (with a grade of "C-" or better). Computer Engineering or Software Engineering Majors Only.  
**Grading:** Graded

*CMPE 139 - Fundamentals of Data Mining*

3 unit(s)

Introduction to data management and data mining, data preprocessing, OLAP and data warehousing, frequent pattern mining and association rules, clustering, classification, web mining, web search, recommender systems, social network analysis.

**Prerequisite(s):** CMPE 126 or CS 146 (with C- or better). Computer Engineering or Software Engineering Majors Only.  
**Grading:** Graded

*CMPE 140 - Computer Architecture and Design*

3 unit(s)

Pipelining and timing issues in CPU data-paths. Principles of RISC-type CPU instruction set and architecture. Structural, data and control hazards in a RISC processor, forwarding loops, branch mechanisms. Memory architectures in CPUs such as register files and caches.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CMPE 125 (with grade of "C-" or better), Computer Engineering or Software Engineering Majors

Only.

**Grading:** Graded

*CMPE 142 - Operating Systems Design*

3 unit(s)

Overview: history, concepts, system calls and structures. Management of major components: processes, memory, input/output and files. Design of system calls and device drivers for hardware dependence. Concepts of kernel and shell, file protection and interactive computation.

**Prerequisite(s):** CMPE 102, CMPE 126 (all with grades of "C-" or better). Computer Engineering or Software Engineering Majors Only.

**Corequisite(s):** CMPE 130 (with grades of "C-" or better).

**Grading:** Graded

*CMPE 146 - Real-Time Embedded System Co-Design*

3 unit(s)

Embedded system architecture with real-time operating system including microcontrollers, interfacing techniques for industrial applications using transducers, sensors, and A/D-D/A converters. Hardware/software integration and codesign.

*Misc/Lab: Lecture 2 hrs/lab 3 hrs.*

**Prerequisite(s):** CMPE 110 and CMPE 127 with grade of "C-" or better. Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 147 - Fundamentals of System on Chip (SoC) Design*

3 unit(s)

System on Chip implementation of a computing system. Implementation of parallel and serial bus architectures. SRAM, SDRAM and Flash memory interfaces. Direct Memory Access (DMA), interrupt controller, transceiver, timers and data converters. Verilog skills are required.

**Prerequisite(s):** CMPE 125 (with "C-" or better). Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 148 - Computer Networks I*

3 unit(s)

Comparative evaluation of network architecture, layering model, standards, protocol examples for ISO and TCP/IP layers. Network applications, transport layer protocols, Internet routing, data link and physical transmissions. Applications in world wide web, file transfer, electronic mail, peer-to-peer and other areas.

**Prerequisite(s):** For CMPE major: CMPE 124 and CMPE 126 (with a grade of C- or better); for SE major: CMPE 120 and CS 146 (with a grade of C- or better); Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 150 - System Architecture and Electronic Design for Robotics*

3 unit(s)

Design and architecture for generating autonomous and human-reliant robots, algorithm development for object perception, electronic design and system integration for cognitive and sensory capabilities of robots, mechanisms for actuation and mobility, fault diagnosis and self-calibration.

**Prerequisite(s):** CMPE 110, CMPE 124

**Grading:** Graded

*CMPE 152 - Compiler Design*

3 unit(s)

Principles of lexical analysis, finite state automata and parsing; issues of variable declarations, variable types, control statements, function calls, nested scopes and efficient assembler target code.

**Prerequisite(s):** CMPE 126 and CMPE 102 both with a "C-" or better

**Grading:** Graded

*CMPE 163 - Introduction to Computer Graphics and Augmented Reality*

3 unit(s)

Introduction to 2D and 3D vector and pixel graphics, 2D and 3D transformations, world to viewer transformation pipeline, perspective projection, hidden line and surface removal, decoration algorithm and texture mapping, integration of pixel graphics and augmented reality, and hands-on laboratories.

**Prerequisite(s):** CMPE 127, MATH 33LA or MATH 39 or EE 112.

**Pre/Corequisite(s):** ENGR 100W.

**Grading:** Graded

*CMPE 165 - Software Engineering Process Management*

3 unit(s)

Integrated approach to managing development within small teams; including mission statement, synthesis of design concepts, tradeoff studies, risk assessment and the interactions encountered in the optimal design, development, manufacture and test of systems.

**Prerequisite(s):** CMPE 131 with a "C-" or better

**Grading:** Graded

*CMPE 172 - Enterprise Software Platforms*

3 unit(s)

Introduction to enterprise software systems. Covers network operating systems, DBMS, transaction monitors, groupware, distributed objects, system management and the Web. Covers standards such as J2EE, CORBA, SQL, JDBC, and HTTP; and emerging software technologies.

**Prerequisite(s):** CMPE 142 or CS 149 with grade of 'C-' or better. Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 180 - Individual Studies*

1-3 unit(s)

Individual work in computer engineering.

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*CMPE 180A - Data Structures and Algorithms in C++*

3 unit(s)

Data representation and preprocessing, proximity, finding nearest neighbors, dimensionality reduction, exploratory analysis, association Object-oriented data organization and representation as strings, arrays, stacks, queues, dequeues, lists, sets, trees, tables, and graphs. Sorting and searching and algorithm design and performance analysis. Testing methods and data are discussed.

**Prerequisite(s):** Admission into MS Computer Engineering or MS Software Engineering

**Grading:** Credit/No Credit

*CMPE 180B - Database Systems*

3 unit(s)

File organization and storage structure, database system architecture, entity relationship model, normalization techniques, SQL, relational algebra, storage organization, query processing, and concurrency control.

**Prerequisite(s):** Admission into MS Computer Engineering or MS Software Engineering

**Grading:** Credit/No Credit

*CMPE 180C - Operating Systems Design*

3 unit(s)

History, concepts, system calls and structures. Management of major components: processes, memory, input/output and files. Design of system calls and device drivers for hardware dependence. Concepts of kernel and shell, file protection and interactive computation.

**Prerequisite(s):** Admission into MS Computer Engineering or MS Software Engineering

**Grading:** Credit/No Credit

*CMPE 180D - Digital Design and Microprocessors*

3 unit(s)

Binary codes/number representations, binary arithmetic, combinatorial logic design with gates, logic minimization, decoders, encoders, adders; sequential logic design with latches, flip-flops, registers, counters, state machine design; basic microprocessor architectures (control/data paths) and memory subsystems, asynchronous logic (racing, glitches, timing diagrams).

**Prerequisite(s):** Admission into MS Computer Engineering

**Grading:** Credit/No Credit

*CMPE 181 - Internet of Things Platforms*

3 unit(s)

Internet of Things (IoT) landscape, fundamentals, architecture, standards and protocols, software and hardware systems, security, and data analytics. Investigate state-of-the-art IoT platforms. Develop hands-on expertise in IoT

system development.

**Prerequisite(s):** For CMPE major: CMPE 124 and CMPE 126; for SE major: CMPE 120 and CS 146.

**Grading:** Graded

*CMPE 182 - Internet of Things Security*

3 unit(s)

Secure Internet of Things (IoT) system design, vulnerabilities, attacks, and countermeasures, principles of privacy-by-design, secure IoT system development and lifecycle. Blockchains, distributed consensus, and identity management systems for connected devices.

**Prerequisite(s):** CMPE 126 or CS 146.

**Grading:** Graded

*CMPE 185 - Autonomous Mobile Robots*

3 unit(s)

Basic concepts and algorithms for mobile robots that act autonomously in complex environments. Emphasis on mobile robot locomotion and kinematics, environment perception, probabilistic map-based localization and mapping, motion planning, and programming in Robot Operating System (ROS).

**Prerequisite(s):** ISE 130 or MATH 161A; and MATH 33LA; and, CMPE 126 or CS 146.

**Grading:** Graded

*CMPE 187 - Software Quality Engineering*

3 unit(s)

Software testing and quality assurance engineering concepts, processes, models, criteria, and methods. Software unit testing, integration, function validation, system performance and reliability evaluation; Software security testing methods and tools; software quality management, control systems, standards, and evaluation metrics.

**Prerequisite(s):** CMPE 131. Computer Engineering or Software Engineering Majors Only.

**Grading:** Graded

*CMPE 188 - Machine Learning for Big Data*

3 unit(s)

Introduction to machine learning and pattern recognition for big data analytics; machine learning concepts, theories, approaches, algorithms, and big data analytic applications; supervised learning unsupervised learning and learning theory.

**Prerequisite(s):** CMPE 126 or CS 146

**Grading:** Graded

*CMPE 189 - Special Topics in Computer Engineering*

3 unit(s)

Advanced topics in Computer Engineering. Content varies from semester to semester.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CMPE 192 - Int'l Program Studies*

1 unit(s)

**Grading:** Mixed Grading

*CMPE 195A - Senior Design Project I*

2 unit(s)

Comprehensive plan and preliminary design of a group computer/software engineering project; integration of knowledge in science, technologies and team processes; group written report and oral presentation; global and social issues in engineering; individual professional development plans. GE Area: S when taken as part of CMPE major sequence.

6 lab hours.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** For CMPE Majors: CMPE 125, CMPE 127, CMPE 130, CMPE 131 (all with a C- or better); ENGR 100W (with a grade of "C" or better); in good academic and major standings and graduation application on file. For SE Majors: CMPE 133, CS 146, ISE 130 or MATH 161A (with a grade of "C-" or better), ENGR 100W (all with a grade of "C" or better); in good standing academic and major standings and graduation application on file.

**Corequisite(s):** ENGR 195A.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: CMPE 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

*CMPE 195B - Senior Design Project II*

3 unit(s)

Implementation of group design project initiated in CMPE 195A; group oral presentation and written report; integrated global and social issues in engineering.

*Misc/Lab: Lab 9 hours.*

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding when taken as part of CMPE major sequence*

**Prerequisite(s):** CMPE 195A (with grade of "C" or better). junior and senior only. Allowed Declared Majors: Computer Engineering, Engineering, Software Engineering.

**Corequisite(s):** ENGR 195B

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: CMPE 195A, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and upper division standing.

*CMPE 195E - Senior Design Project I*

1 unit(s)

Comprehensive plan and preliminary design of a group computer/software engineering project; integration of knowledge in science, technologies and team processes; group written report and oral presentation; individual professional development plans.

**Prerequisite(s):** For CMPE Majors: CMPE 125, CMPE 127, CMPE 130, CMPE 131; ISE 130 (all with a C- or better);

ENGR 100W (with a grade of "C" or better); in good academic and major standings and graduation application on file. For SE Majors: CMPE 133, CS 146, ISE 130 or MATH 161A (with a grade of "C-" or better), ENGR 100W (all with a grade of "C" or better); in good standing in the major, graduation application on file.

**Grading:** Graded

*CMPE 195F - Senior Design Project II*

3 unit(s)

Implementation of group design project initiated in CMPE 195A; group oral presentation and written report.

*Misc/Lab: 9 hours of Lab*

**Prerequisite(s):** CMPE 195A (grade of C or better); in good academic and major standings

**Grading:** Graded

*CMPE 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CMPE 198 - Technology and Civilization*

3 unit(s)

History, development, and use of technology in different cultures. Technology's impact on society, global environment, the workplace, cultural values, gender roles, and newly industrialized countries of the world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CMPE 200 - Computer Architecture*

3 unit(s)

Computer design overview, processor instruction set architecture and microarchitecture, instruction-level parallelism, memory hierarchy, storage and I/O systems, multicore/multiprocessor and data/thread-level parallelism, introduction to parallel programming.

**Prerequisite(s):** CMPE 180D or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 202 - Software Systems Engineering*

3 unit(s)

Integrated approach to software design and development including requirements elicitation and analysis, system design and construction through studying multiple facets of software development processes, design methodologies, modeling approaches, and implementation techniques.

*Misc/Lab: Lecture 3 hours.*

**Prerequisite(s):** Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 203 - Software Engineering Management*

3 unit(s)

Development of software systems from the perspective of project management within the dynamic and complex nature of software technologies and environments; development lifecycle, communications, team dynamics, planning, estimation, scheduling, risk analysis, metrics tracking, problem management, and configuration management.

**Prerequisite(s):** Graduate standing or instructor consent. Computer Engineering or Software Engineering Majors only.

**Grading:** Graded

*CMPE 206 - Computer Network Design*

3 unit(s)

Network topology and queuing theory. The seven layers of the ISO reference model: physical, data link, network, transport, session, presentation and application. Example networks. Network design project.

**Prerequisite(s):** CMPE 180A, classified standing, or instructor consent

**Grading:** Graded

*CMPE 207 - Network Programming and Application*

3 unit(s)

Development and implementation of networking software for building distributed applications. Application Programming Interfaces: BSD Sockets, Winsock, Remote Procedure Call and Middleware. Network programming project.

**Prerequisite(s):** CMPE 206, or instructor consent.

**Grading:** Graded

*CMPE 208 - Network Architecture and Protocols*

3 unit(s)

In-depth study of the principles and architecture of Internet protocols in current practice. Analysis of protocols of network, transport, and application layers. Topics will also cover emerging network architecture and protocols. Network analysis project..

**Prerequisite(s):** CMPE 206 or instructor consent.

**Grading:** Graded

*CMPE 209 - Network Security*



3 unit(s)

Network security protocols and applications, cryptography algorithms, authentication systems, intrusion detection, network attacks and defenses, system-level security issues, and building of secure systems.

**Prerequisite(s):** CMPE 206 or EE 281 or instructor consent.

**Grading:** Graded

*CMPE 210 - Software-defined Networks and Network Functions Virtualization*

3 unit(s)

The course covers development and implementation of Software-defined Networks and Network Functions Virtualization for building programmable network applications. It includes their concepts with various use cases. Students conduct a network programming project related to SDN/NFV by using open source projects.

**Prerequisite(s):** CMPE 206 (or equivalent graduate network courses) or instructor consent.

**Grading:** Graded

*CMPE 211 - Advanced Network Security in IoT*

3 unit(s)

Advanced security topics in the Internet of things (IoT). SDN/NFV (Software Defined Networking and Network Function Virtualization) and blockchain to defend against IoT attacks and protect IoT infrastructure. Network security protocols and applications, intrusion detection, network attacks and defenses, and system-level security issues.

**Prerequisite(s):** CMPE 206 or Instructor Consent

**Grading:** Graded

*CMPE 212 - System Verification*

3 unit(s)

Introduction to SoC system configuration and integration; on chip protocols; assertion based verification; code and functional coverage metrics; methodologies, tools, and environments for functional verification of special function blocks (IPs) and integrated SoC-based computer systems.

**Prerequisite(s):** CMPE 200 and CMPE 264 or instructor consent.

**Grading:** Graded

*CMPE 213 - Parallel Computing*

3 unit(s)

How to effectively program parallel computers, from smartphones to large clusters. Types of parallel architectures, routing, communication operations, parallel programming models, performance analysis, parallel algorithms for sparse matrix and graph problems, load balancing, advanced topics. Applications to Big Data Analytics.

**Prerequisite(s):** Classified graduate standing or instructor consent

**Grading:** Graded

*CMPE 214 - GPU Architecture and Programming*

3 unit(s)

Explores state-of-the-art parallel architecture and various parallel programming techniques. Investigate the architectural difference between CPU and various parallel architectures including GPU, programming basics of

parallel platforms such as CUDA, optimization and debugging techniques.

**Prerequisite(s):** CMPE 140 or CMPE 200

**Grading:** Graded

*CMPE 217 - Human Computer Interaction*

*3 unit(s)*

Human performance characteristics, computational tools, and HCI applications. How to access/evaluate HCI requirements, to design HCI requirements, to assess the impact of design on performance, and to generalize the design implication to system function.

**Grading:** Graded

*CMPE 219 - HCI for Cyber Security*

*3 unit(s)*

The course covers HCI in cyber security that include: authentication and access control, trust, user privacy and data protections, cyber security in social networking, data protection and security in healthcare, cyber security in eCommerce, mobile, computing & cloud computing, compliance and regulation, visualization tools and techniques in cyber security and privacy.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*CMPE 220 - System Software*

*3 unit(s)*

System software overview, assemblers, macro-assemblers, loaders and linkers, compilers and operating systems. Design project.

**Prerequisite(s):** CMPE 180A and CMPE 180C, or classified standing. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 226 - Database Systems*

*3 unit(s)*

Database architectures, technologies, and practices for enterprise systems that use structured, semi-structured, and unstructured data. Provides opportunities to research and acquire experience using modern and emerging concepts in relational and non-relational database theory and technologies.

**Prerequisite(s):** CMPE 272 or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 235 - Mobile Software System Design*

*3 unit(s)*

Study of wireless-based software systems in design and engineering, underlying networks, infrastructures and frameworks, wireless security, mobile user security & privacy (i.e. biometric security), emergent mobile programming platforms and technologies (such as RFID/Barcode/NFC), mobile commerce and service application systems.

**Prerequisite(s):** CMPE 220 or CMPE 202 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 236 - Mobile Web Application Systems*

3 unit(s)

Mobile web system concepts, technology, architectures, security, design methods, validation techniques; mobile platforms and enabled technologies, mobile cloud, database and access services; mobile app development and platform solutions.

**Prerequisite(s):** CMPE 202 or instructor consent.

**Grading:** Graded

*CMPE 240 - Advanced Computer Design*

3 unit(s)

Architecture of a computing system including system bus, memory subsystems and peripherals. Unidirectional and bidirectional bus architectures. SRAM, SDRAM and FLASH memories. Design of DMA, interrupt controller, transmitter/receiver, timer, display adapter, A/D and D/A converters and other system peripherals. Design of memory and peripheral bus interfaces.

**Prerequisite(s):** CMPE 180D or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 242 - Embedded Hardware Design*

3 unit(s)

Advanced topics dealing with microprocessor and microcontroller hardware and firmware including processor architecture, advanced memory and I/O systems design, multilevel bus architecture, interrupt systems. Design project.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 243 - Embedded Systems Applications*

3 unit(s)

Embedded system interfacing techniques; peripheral devices; discussion of industrial, telecommunication, automotive, medical, and consumer applications of embedded systems. Design project.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 244 - Embedded Software*

3 unit(s)

Experiments dealing with advanced embedded software programming concepts, interfacing techniques, hardware organization, and software development using embedded systems. Individual projects.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 245 - Embedded Wireless Architecture*

3 unit(s)

Embedded wireless architecture with basic communication protocols and hands-on labs with state of the art embedded system development tools.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 246 - Interface Design in Embedded Systems*

3 unit(s)

Oscillator configuration, parallel and serial I/O port initialization and interface building techniques with Microchip DSP microcontrollers. Integration of external memory blocks, MEMS sensors, MEMS microphone, ADC, DAC and image recognition camera to achieve a specific system functionality. Servo motor, stepper motor and brushless motor interface designs and control. Design specification and development with Microchip MPLABX design tools.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent.

**Grading:** Graded

*CMPE 249 - Intelligent Autonomous Systems*

3 unit(s)

Introduction to autonomous systems and intelligent solutions for self-driving cars, advanced topics in multi-modal sensing, sensor fusion, AI computing, mapping, deep learning, object detection, perception, localization, prediction, path planning, control, reinforcement learning, and Robotic Operating System (ROS).

**Prerequisite(s):** CMPE 252, CMPE 255, and ISE 201; or instructor consent.

**Grading:** Graded

*CMPE 252 - Artificial Intelligence and Data Engineering*

3 unit(s)

Introduction to important concepts and techniques from the fields of artificial intelligence. evolution of AI systems. intelligent agents. problem solving by searching, machine learning, neural networks, reinforcement learning, and knowledge representation. The data engineering and science process is covered as well as applications of AI and ethical considerations.

**Prerequisite(s):** Classified graduate standing.

**Grading:** Graded

*CMPE 255 - Data Mining*

3 unit(s)

Data representation and preprocessing, proximity, finding nearest neighbors, dimensionality reduction, exploratory analysis, association analysis and sequential patterns, supervised learning: model selection and evaluation, overfitting, clustering, advanced topics.

**Prerequisite(s):** CMPE 180A, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 256 - Web and Big Data Mining*

*3 unit(s)*

Data mining and machine learning algorithms and applications for large amounts of data. Information retrieval and search engines, social network analysis, link analysis, and ranking. Web personalization, recommender systems, opinion mining and sentiment analysis, and advanced topics.

**Prerequisite(s):** CMPE 180A, classified standing, or instructor consent. Allowed Declard Majors: Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*CMPE 257 - Machine Learning*

*3 unit(s)*

Machine learning concepts, feasibility and learning types, theory of generalization, bias and variance, linear models for classification and regression, nonlinear transformation, regularization and validation, kernel methods, radial basis functions, support vector machines, ensemble methods, neural networks, and hands-on projects.

**Prerequisite(s):** CMPE 180A, classified standing, or instructor consent. Computer Engineering and Software Engineering Majors only.

**Grading:** Graded

*CMPE 258 - Deep Learning*

*3 unit(s)*

Deep neural networks and their applications to various problems, e.g., speech recognition, image segmentation, and natural language processing. Covers underlying theory, the range of applications to which it has been applied, and learning from very large data sets.

**Prerequisite(s):** CMPE 255 or CMPE 257 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 260 - Reinforcement Learning*

*3 unit(s)*

Reinforcement Learning (RL) and Deep Reinforcement Learning (DRL). Topics include RL formalism, Markov decision process, Deep Q-Network, and reinforcement learning programming platforms. Also covered are relevant applications of RL in various fields.

**Prerequisite(s):** CMPE 255 or instructor consent.

**Grading:** Graded

*CMPE 264 - Advanced Digital and Computing System Design*

*3 unit(s)*

Advanced topics in register-transfer-level design of complex digital functional blocks, application-specific instruction

set processors, and system-level integration/validation using Verilog/VHDL/C-level hardware description languages.

**Prerequisite(s):** CMPE 200 or instructor consent.

**Grading:** Graded

*CMPE 265 - High Speed Digital System Design*

*3 unit(s)*

Introduction to high speed interface design techniques and analyzing high speed circuits utilizing latest modeling and simulation tools to provide necessary knowledge for the printed circuit board layout.

**Prerequisite(s):** CMPE 200 or instructor consent.

**Grading:** Graded

*CMPE 266 - Big Data Engineering and Analytics*

*3 unit(s)*

New big data related technologies, architecture, tool, algorithms and analytics to manage and extract values and hidden knowledge from data whose scale, diversity, speed and complexity are big.

**Prerequisite(s):** CMPE 272 or Instructor Consent

**Grading:** Graded

*CMPE 270 - Information Engineering*

*3 unit(s)*

Technologies, strategies and systems for planning, analyzing, designing and implementing data resources in order to ensure and continuously improve processes in the enterprise; object-oriented development, Computer-Aided Software/Systems Engineering (CASE); information superhighway, client/server computing and distributed database management systems.

*Satisfies GWAR*

**Prerequisite(s):** CMPE 30 or instructor consent. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CMPE 272 - Enterprise Software Platforms*

*3 unit(s)*

Enterprise software, system and virtualized platforms. OSs, NOS, security, databases (OLTP, big data, analytics), transactions, groupware, components, web services, web, systems management, and app development. Standards and emerging technologies.

**Prerequisite(s):** MSSE graduate student or instructor consent.

**Grading:** Graded

*CMPE 273 - Enterprise Distributed Systems*

*3 unit(s)*

Introduction to application protocols for large scale distributed systems including object request brokers,

asynchronous messaging, and Web services. Lab is based on using protocols to build distributed systems.

**Prerequisite(s):** Java programming or instructor consent. Computer Engineering and Software Engineering majors only.

**Corequisite(s):** CMPE 272

**Grading:** Graded

*CMPE 274 - Business Intelligence Technologies*

*3 unit(s)*

This course covers technologies that are key to delivering business intelligence to an enterprise. The goal of business intelligence is to analyze and mine business data to understand and improve business performance by transforming business data into information into knowledge.

**Prerequisite(s):** CMPE 272 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 275 - Enterprise Application Development*

*3 unit(s)*

Distributed component design, scalability, messaging, and integration practices for modern and emerging architectures and technologies.

**Prerequisite(s):** CMPE 273 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 277 - Smartphone Application Development*

*3 unit(s)*

Architectures, technologies, and programming concepts for developing smartphone applications. Covers current smartphone/tablet OSs, application development, and deployment environments.

**Prerequisite(s):** Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 279 - Software Security Technologies*

*3 unit(s)*

Fundamental concepts, methods, and tools used to design and implement software security technologies for constructing trustworthy centralized, distributed, or enterprise-wide software systems.

**Corequisite(s):** CMPE 272 or CMPE 220 or instructor consent.

**Grading:** Graded

*CMPE 280 - Web UI Design and Development*

*3 unit(s)*

Web User-interface (UI) design and development with contemporary web standards. Understand interaction and interface design principles and processes for rich web applications, mobile web, web graphics, web design fundamentals, tools, interaction using client side scripting and server side frameworks.

**Prerequisite(s):** Classified graduate standing or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 281 - Cloud Technologies*

*3 unit(s)*

Cloud computing concepts, evolution, architectures, infrastructures, opportunities, risks, enterprise adoption strategies, standards and polices, Software-as-a-Service (SaaS), Platform-as-a-Service (PaaS), Infrastructure-as-a-Service (IaaS), modern cloud computing technologies and tools, case studies and team projects.

**Corequisite(s):** CMPE 272 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 282 - Cloud Services*

*3 unit(s)*

Cloud service architecture and layering, administrative issues, resiliency and security considerations; business development, operations and business support service, case studies and team projects.

**Prerequisite(s):** CMPE 281 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 283 - Virtualization Technologies*

*3 unit(s)*

Virtualization concepts, components and infrastructure, hardware and software virtualization, virtualization machine life cycle management, virtualization services, case studies, and team projects.

**Corequisite(s):** CMPE 272 or instructor consent.

**Grading:** Graded

*CMPE 284 - Storage and Network Virtualization*

*3 unit(s)*

Network and storage technologies, network virtualization and storage virtualization, including virtual local area networks, load balancers, firewalls, virtual private networks, network attached storage and storage area networks, case studies, and team projects.

**Prerequisite(s):** CMPE 283 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded

*CMPE 285 - Software Engineering Processes*

*3 unit(s)*

Software system development with emerging software engineering processes and technologies; planned and agile development processes, processes of Service-Oriented Architecture; component-based, Web-based, mobile based, event programming, wireless, user interface, and database access technologies.

**Corequisite(s):** CMPE 202 or CMPE 220 or instructor consent. Computer Engineering and Software Engineering majors only.

**Grading:** Graded



*CMPE 286 - Internet of Things*

3 unit(s)

Designed to give an overview of Internet of Things (IoT) as well as associated foundations including model layers, key performance characteristics, key requirements for communication over the Internet, sensing technologies, constrained devices, protocol stacks, and the IoT service platform.

**Prerequisite(s):** MSSE graduate standing or instructor consent.

**Grading:** Graded

*CMPE 287 - Software Quality Assurance and Testing*

3 unit(s)

Software testing concepts, processes, models, criteria, and methods; software unit testing, integration, function validation, system performance measurement, and reliability evaluation; software security testing methods, assurance criteria, and validation tools; software security assurance process, standards, techniques, and case study.

**Corequisite(s):** CMPE 202 or CMPE 220 or instructor consent.

**Grading:** Graded

*CMPE 289 - Cloud Security Engineering*

3 unit(s)

Cloud security engineering concepts, issues, infrastructures, risks, enterprise adoption concerns; cloud security management, standards, criteria, processes, policies, regulations, identity and access management; security as a service and emergent security solutions and tools in clouds, case studies and team projects.

**Prerequisite(s):** CMPE 272 or instructor consent

**Grading:** Graded

*CMPE 292 - Int'l Program Studies*

1-9 unit(s)

**Grading:** Mixed Grading

*CMPE 294 - Computer Engineering Seminar*

3 unit(s)

Provides graduate students with a background to conduct research, write proposals and present results in oral and written form.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CMPE 294A - Cyber Security Seminar*

3 unit(s)

Provides graduate students with the background and capability to conduct research and write technical reports in the

area of cyber security

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CMPE 295A - Master Project I*

*3 unit(s)*

Comprehensive plan and preliminary design of a computer/software engineering project; integration of knowledge in technologies, processes and management to support program outcomes.

*Misc/Lab: Lab 9 hours.*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Classified status, good standing, completed 2 degree core courses, completed 2 courses in specialization, and graduate advisor consent.

**Grading:** Graded

*CMPE 295B - Master Project II*

*3 unit(s)*

Completion of an in-depth project to achieve the program outcomes and satisfy the cumulating experience; write a detailed project report; make a comprehensive presentation and demonstration.

*Misc/Lab: Lab 9 hours.*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** CMPE 295A (with a B or better) or CMPE 295W (with a B or better), completed all degree core courses, admission to candidacy and graduate advisor consent.

**Grading:** Graded

*CMPE 295W - Master Project*

*3 unit(s)*

In-depth developmental engineering work relating to problems of interest. Project includes proposal formulation, analysis, design, implementation, and testing.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Completed degree and specialization core requirements, classified status, in good standing and graduate advisor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CMPE 296Y - High Level Synthesis*

3 unit(s)

Purpose, methodologies, and techniques of high level synthesis (HLS), hands-on HLS practices starting from C/C++/SystemC description to FPGA device implementation.

**Prerequisite(s):** CMPE 200, CMPE 212, and CMPE 264.

**Grading:** Graded

*CMPE 296Z - System Architecture*

3 unit(s)

System-level description and verification, performance and power driven system optimization via microarchitecture exploration and hardware/software trade-offs, system integration and hardware/software co-validation.

**Prerequisite(s):** CMPE 200, CMPE 212, and CMPE 264

**Grading:** Graded

*CMPE 297 - Special Topics in Computer/Software Engineering*

3 unit(s)

Special topics to augment regularly-scheduled graduate courses. May be taken up to three times in different topic areas.

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CMPE 298 - Special Problems*

1-6 unit(s)

Advanced individual work in computer engineering.

**Prerequisite(s):** Instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CMPE 298I - Computer/Software Engineering Internship*

1-6 unit(s)

Field work for computer and software engineering graduate students. A report is required at the end of the semester addressing the goals set at the start of the assignment.

**Prerequisite(s):** Completed 6 units degree core plus six additional degree program units, classified status, in good standing and graduate advisor consent

**Grading:** Mandatory CR/NC/RP

*CMPE 299A - Master Thesis I*

3 unit(s)

The first part of a thesis culminating the work for the master's degree in the specialization.

**Prerequisite(s):** Completed core courses and classified status. Not available to Open University students.

**Grading:** Mandatory CR/NC/RP

*CMPE 299B - Master Thesis II*

3 unit(s)

The second part of a thesis culminating the work for the master's degree in the specialization.

**Prerequisite(s):** Admission to Candidacy of Master Degree and CMPE 299A. Not available to Open University students.

**Grading:** Mandatory CR/NC/RP

## Department of Electrical Engineering

**Office:** Engineering Building 349

**Telephone:** 408-924-3950

**Email:** electrical.engineering@sjsu.edu

**Website:** ee.sjsu.edu

### Professors

Tri Caohuu  
Chang Choo  
Sotoudeh Hamedi-Hagh  
Lili He  
Ping Hsu  
Thuy Le, Chair  
Essam Marouf  
Nader Mir  
Robert Morelos-Zaragoza  
David Parent

### Associate Professors

Jalel Rejeb  
Birsen Sirkeci, Graduate Coordinator

### Assistant Professors

Mohamed Badawy  
Binh Quang Le  
Jonathan Ponniah  
Hiu Yung Wong  
Juzi Zhao

## Overview

Top-ranked among national BS/MS programs by U.S News and World Report, the Electrical Engineering Department powers Silicon Valley. We provide more electrical engineering graduates to this region than are provided by any other college or university anywhere. At the forefront of technological research and innovation in multimedia computing, global communications, and high-speed integrated circuitry, electrical engineers push technology to the limits of physical and mathematical laws. There is no greater challenge for the creative mind. We prepare students for exciting

careers in diverse areas of hi-tech engineering, including micro and nano technologies, chip-scale integration, embedded hardware and software systems, controls, robotics and autonomy, power electronics and energy systems, communication and machine learning, networking and cybersecurity. Our accomplished faculty brings real-world experience to the classroom, and the department's links with local industry ensure that our laboratories are among the area's most advanced instructional facilities with up-to-date, state-of-the-art equipment. The BS Electrical Engineering program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)

## Undergraduate

### Electrical Engineering, BS

- Department of Electrical Engineering
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 18

Major Preparation 33

Major Requirements 69

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major-Specific Graduation Requirements

All required courses in Engineering, Mathematics, and Physics require a "C-" or better to graduate.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

### University Requirements (18 units)

#### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

- American Studies 1A/1B option (D1 Waived): AMS 1A/AMS 1B, American Cultures (C1+C2+D2+D3+US123) 12 unit(s)
- Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B 24 unit(s) offer larger integrated packages that meet this requirement. Consult major advisor for details.

### Physical Education

The Physical Education requirement is waived for Electrical Engineering students.

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (33 units)

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 unit(s) (B1+B3)

### Complete One Course From:

- MATH 33LA - Differential Equations and Linear Algebra 3 unit(s)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 unit(s)

### Major Requirements (69 units)

*All required courses in Engineering, Mathematics, and Physics require a "C-" or better to graduate.*

### Core Courses (13 units)

- EE 97 - Introductory Electrical Engineering Laboratory 1 unit(s)

- EE 98 - Introduction to Circuit Analysis 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)

### Complete One Course From:

- CMPE 30 - Programming Concepts and Methodology 3 *unit(s)*
- EE 30 - Introduction to Programming Micro-Controllers for Electrical Engineering 3 *unit(s)*

### Required Courses (41 units)

*Students must take 1-unit ENGR 195A and 1-unit ENGR 195B courses or 3-unit Area S and 3-unit Area V courses to meet GE Area S&V requirements. The 1-unit ENGR 195A and ENGR 195B courses must be concurrently enrolled with the required EE 198A and EE 198B courses, respectively.*

- EE 102 - Probability and Statistics in Electrical 3 *unit(s)*
- EE 110 - Circuits and Systems 3 *unit(s)*
- EE 110L - Continuous and Discrete Time Systems Lab 1 *unit(s)*
- EE 112 - Introduction to Signal Processing 3 *unit(s)*
- EE 118 - Digital Logic Circuit Design 4 *unit(s)*
- EE 120 - Microprocessor Based System Design 4 *unit(s)*
- EE 122 - Electronic Design I 4 *unit(s)*
- EE 124 - Electronic Design II 4 *unit(s)*
- EE 128 - Physical Electronics 3 *unit(s)*
- EE 140 - Principles of Electromagnetic Fields 3 *unit(s)*
- EE 198A - Senior Design Project I 1 *unit(s)* (S)
- EE 198B - Senior Design Project II 3 *unit(s)* (V)
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* (S)
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* (V)
- MATE 153 - Electronic, Optical and Magnetic Properties of Materials 3 *unit(s)*

### Additional Required Courses (3 units)

Complete One Course From:

- EE 132 - Theory of Automatic Controls 3 *unit(s)*
- EE 160 - Principles of Communication Systems 3 *unit(s)*

### Approved Upper Division Electives (12 units)

Elective courses as approved by advisor.

### Total Units Required (120 units)

## Master

## Electrical Engineering, MS

The Master of Science in Electrical Engineering, offered by the Department of Electrical Engineering, is designed to prepare our graduates for the dynamic global society. Our programs have made us a leading provider of engineering talent to Silicon Valley's high-tech industry. The curriculum is continually updated to keep abreast of advances in the engineering profession and industry. Along with the traditional emphasis on fundamental scientific knowledge, current engineering practice using computer design tools is integrated into the curriculum. Information about the MSEE program can be found at [ee.sjsu.edu](http://ee.sjsu.edu).

## Admissions Requirements

Candidates for admission apply through the CSU admissions portal, [calstate.edu/apply](http://calstate.edu/apply). Applicants must meet all admission requirements.

Follow the link for general information about the university admission requirements and process. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Admission to Classified Standing

To be admitted to classified standing, an applicant must possess a baccalaureate degree with a major in Electrical Engineering or its equivalent and a grade point average of 3.0 or better on a 4.0 scale from a U.S. university with an ABET-accredited Electrical Engineering program.

## Requirements for Admission to Conditionally Classified Standing

Some applicants who do not qualify for classified standing may be admitted as conditionally classified graduate students. They must petition for a change to classified status after completing the common core graduate courses with grades of "B" or better. A maximum of 15 units earned before the student attains the classified status may be counted towards the MSEE degree requirements.

## Applicants with a BSEE Degree from an Accredited University in the U.S.

An applicant with a BS degree in Electrical or Computer Engineering from an accredited university within the United States, whose GPA is 3.0 or above on a 4.0 scale, will be admitted to classified standing (GRE is not required). An applicant with a GPA lower than 3.0 but higher than 2.75 on a 4.0 scale is required to submit their general GRE scores with the application. If accepted, the applicant will be admitted as a conditionally classified graduate student. Such a student may petition for a change to classified standing after successfully completing two of the following three courses: EE 210, EE 221, or EE 250 with a "B" or better grade in each course. Information about GRE score requirements can be found at Graduate Program Test Requirement.



## **Applicants with a BS Degree in Another Branch of Engineering or Science from an Accredited University in the U.S.**

An applicant who possesses a baccalaureate degree in another branch of Engineering or in Physics or Mathematics with a minimum GPA of 3.0 on a 4.0 scale is required to submit his/her general GRE scores with the application. If accepted, the applicant will be admitted as a conditionally classified graduate student. Such an applicant may be required to complete four undergraduate courses at the beginning of the graduate program. The four undergraduate courses are selected from EE 110 - Circuits and Systems, EE 112 - Introduction to Signal Processing, EE 118 - Digital Logic Circuit Design, EE 120 - Microprocessor Based System Design, EE 122 - Electronic Design I, EE 124 - Electronic Design II and EE 140 - Principles of Electromagnetic Fields. Following the completion of the undergraduate courses, the student must successfully complete two of the three graduate core courses, EE 210, EE 221, or EE 250, with a "B" or better grade in each course. He or she may not enroll in more than two other graduate courses before completing these requirements. Units for the undergraduate courses are not counted toward the MSEE degree unit requirement. Information about GRE score requirements can be found at Graduate Program Test Requirement.

## **Applicants with Undergraduate Degrees from Foreign Universities**

An applicant with a baccalaureate degree in Electrical, Electronic, Telecommunications, Computer Engineering, or other similar majors with a minimum GPA of 3.0 on a 4.0 scale is eligible to apply. Applicants are required to take an English-proficiency test (TOEFL or equivalent) and general Graduate Record Exam (GRE). Information about minimum score requirements for English-proficiency tests and GRE can be found at Graduate Program Test Requirement. In general, there are no hard cut-offs on the GRE scores but the scores will be used with applicants' degree and GPA to rank the candidates for admission.

Applicants satisfying these requirements may be admitted as conditionally classified graduate students with the condition that they complete two of the three core graduate courses, EE 210, EE 221, or EE 250, with a "B" or better grade in each course before enrolling in any other graduate course. However, a student with a high GPA and GRE may be admitted into classified standing.

## **Applicants from Other Graduate Programs within the University**

A graduate student who has been admitted to another department in San José State University must complete at least one semester of work in that department before being able to transfer to the Electrical Engineering Department. A minimum GPA of 3.0 and general GRE are required. The scores will be used with applicants' degree and GPA to compare the candidate with those seeking first-time admission.

A "Change of Major Form" must first be approved by the GAPE office and the request transferred to the Electrical Engineering Department before the student may be considered for transfer into the Electrical Engineering program.

## **Requirements for Advancement to Graduate Candidacy**

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. See the link for information about this requirement.

Students also must fulfill the Graduation Writing Assessment Requirement (GWAR) before advancing to candidacy. See the link for information about the GWAR.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Course Requirements

To meet the requirements for the MS - Electrical Engineering degree, a student must complete 33 units including GWAR with a cumulative GPA of 3.0 or better. The program provides three options (two plans): MS thesis (Plan A), MS Project (Plan B), or courses only followed by a comprehensive exam (Plan B).

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

#### Plan A (Thesis)

Students choosing this option must complete the MSEE Thesis Proposal course (EE 299A) or MSEE Project Proposal course (EE 297A) and MSEE Thesis course (EE 299B). The student is responsible for securing the commitment of three university faculty members, two of whom must be full-time EE faculty members, to serve as the student's thesis committee, with one full-time EE faculty member agreeing to serve as thesis committee chair. The student must write a thesis proposal and have it approved by the thesis committee and pass the MSEE Thesis Proposal course (EE 299A) before enrolling in EE 299B. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MSEE degree must successfully pass a final oral defense of the thesis.

#### Plan B (Project)

The student must complete the MSEE Project Proposal course (EE 297A) or MSEE Thesis Proposal course (EE 299A) and MSEE Project course (EE 297B). The student is responsible for securing the commitment of a full-time EE faculty member to serve as MSEE Project Advisor. The student must write a project proposal and have it approved by the project advisor and pass the MSEE Project Proposal course (EE 297A) before enrolling in the final MSEE Project course (EE 297B). The candidate for the MSEE degree must successfully pass a final defense of the project.

#### Plan B (Comprehensive Exam)

Students opting for the courses-only option must pass the Comprehensive Exam (given once per semester) to earn the MSEE degree. The exam is a 90-minute closed book exam with 14 problems selected from fourteen EE graduate-level elective courses. Students are required to answer three problems from the fourteen appearing on the exam.

## Masters Requirements (33 units)

### Core Courses (9 units)

- EE 295 - Technical Writing - Engineering Ethics 3 *unit(s)* (GWAR) (Students with GWAR waivers take an additional 3 units of electives)

### Complete Two Courses From:

- EE 210 - Linear System Theory 3 *unit(s)*
- EE 221 - Semiconductor Devices I 3 *unit(s)*
- EE 250 - Probabilities, Random Variables and Stochastic Processes 3 *unit(s)*

### Area of Specialization (9 units)

### Electives (9 units)

9 units of Approved Electives

### Culminating Experience (6 units)

#### Plan A (Thesis) (6 units)

- EE 299A - MSEE Thesis Proposal 3 *unit(s)*  
or EE 297A - MSEE Project Proposal
- EE 299B - MSEE Thesis 3 *unit(s)*

#### Plan B (Project) (6 units)

- EE 297A - MSEE Project Proposal 3 *unit(s)*  
or EE 299A - MSEE Thesis Proposal
- EE 297B - MSEE Project 3 *unit(s)*

#### Plan B (Courses Only) (6 units)

- Comprehensive Exam 0 *unit(s)*
- Additional 6 units of Approved Electives 6 *unit(s)*

## Total Units Required (33 units)

A coherent plan of study must be approved on the prescribed form by the graduate coordinator. In special circumstances, a maximum of 3 units of approved courses taken outside the Electrical Engineering Department may be applied toward the MS - Electrical Engineering degree. Students who wish to take courses outside the Electrical Engineering Department must have pre-approval by the Graduate Coordinator.

Students opting for the courses-only option must also pass the required Comprehensive Exam (given once per semester) to earn the MSEE degree.

In addition to the above requirements, students must satisfy all university requirements and procedures as stated in this catalog.

### Areas of Specialization

- Device Physics/Logic/Digital/Embedded System Design
- ASIC/VLSI Circuits
- Analog/Mixed-Signal IC
- Communications/Signal Processing/Machine Learning
- Networking/Cybersecurity
- Power Electronics/Control/Energy Systems

Students desiring to pursue an area of specialization not listed above should consult his or her area advisor. A coherent plan of study must be approved on the prescribed form by the area advisor and the graduate coordinator.

#### *EE 30 - Introduction to Programming Micro-Controllers for Electrical Engineering*

*3 unit(s)*

Introduction to C language program development using an integrated development environment. Program development includes program design, development, debugging, testing and documentation. Electrical engineering application examples dealing with circuits, systems, data converters and signal processing concepts are used throughout the course.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** ENGR 10

**Grading:** Graded

#### *EE 92 - Int'l Program Studies*

*1-6 unit(s)*

**Grading:** Mixed Grading

#### *EE 97 - Introductory Electrical Engineering Laboratory*

*1 unit(s)*

Basic instruments and experimental techniques in electrical engineering. Oscilloscopes, function generators, frequency counters and multiple-use meters. Measurements of voltage, current, frequency response, transient response and computer simulation of circuits.

*Misc/Lab: Lab 3 hours.*

**Pre/Corequisite(s):** EE 98. Allowed Declared Majors: Electrical Engineering, Computer Engineering, Chemical Engineering, Materials Engineering, Industrial and Systems Engineering.

**Grading:** Graded

*EE 98 - Introduction to Circuit Analysis*

3 unit(s)

Circuit laws and nomenclature, resistive circuits with DC sources, ideal operational amplifier, controlled sources, natural and complete response of simple circuits, steady-state sinusoidal analysis and power calculations.

**Prerequisite(s):** ENGR 10 and PHYS 51 with a C- or better. Allowed Declared Majors: Any Engineering.

**Corequisite(s):** MATH 33A or MATH 33LA.

**Grading:** Graded

*EE 98H - Honors Introduction to Circuit Analysis*

3 unit(s)

A project and design based approach to the introduction of circuit laws and analysis methods such as nodal analysis, superposition, equivalent circuits and phasor analysis for circuits involving RLC and operational amplifiers.

**Prerequisite(s):** ENGR 10 and PHYS 51 (with a grade of "B" or better).

**Corequisite(s):** MATH 33A or MATH 33LA.

**Grading:** Graded

*EE 98W - Introduction to Circuit Analysis Workshop*

1 unit(s)

Workshop designed to help all students excel in EE 98. Students work in groups on challenging circuit analysis problems to help them understand EE 98 concepts more deeply and lay the groundwork for success in engineering courses.

**Corequisite(s):** EE 98 or EE 98H

**Grading:** Credit/No Credit

*EE 101 - Circuits Concepts and Problem Solving*

1 unit(s)

Development of skill and proficiency in solving electric circuit, calculus, and differential equation problems; techniques for analyzing DC circuits, AC circuits, and transients. Well prepared students should consider credit by examination for this course.

*Activity 2 hours.*

*Repeatable for credit.*

**Prerequisite(s):** EE 98 (with a grade of "C-" or better).

**Grading:** Credit / No Credit

*EE 102 - Probability and Statistics in Electrical*

3 unit(s)

Introduction to probability and statistical analysis for undergraduate EE students. Discrete probability theory, theory of single random variables, introduction to statistics and hypothesis testing, and EE applications.

**Prerequisite(s):** EE 112 with a grade of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 104 - Applied Programming in Electrical Engineering*

3 unit(s)

Review of matrix algebra. Solution of linear, non-linear and ordinary differential equations. Interpolation and integration. Approximation of functions. Python programming in electrical engineering applications, which include signal analysis, neural networks, system modeling.

**Prerequisite(s):** EE 110 and EE 112 with a "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 106 - Fundamentals of Mechatronics Engineering*

3 unit(s)

Foundational concepts in mechatronics including analog and digital electronics, sensors, actuators, microprocessors and microprocessor interfacing to electromechanical systems. Hands-on laboratory experiments with components and measurement equipment used in the design of mechatronic products.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** EE 98 and ME 30 (each with a grade of "C-" or better ). For IT majors: TECH 60, MATH 71 or MATH 71X, CMPE 46 (each with a grade of 'C-' or better).

**Grading:** Graded

*EE 110 - Circuits and Systems*

3 unit(s)

Continuous-time signals, circuits and systems. Impulse response and convolution. Laplace and Fourier transforms. Frequency response, transfer function, poles/zeros, filtering. Application to passive and active circuits, and to basic control, communications, and bio-systems.

**Prerequisite(s):** EE 98, MATH 33A or MATH 33LA (each with grade of C- or better). Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*EE 110L - Continuous and Discrete Time Systems Lab*

1 unit(s)

Matlab, LTspice, and Ipython used to solve realistic continuous and discrete time signals, circuits and systems problems. Application to passive and active circuits, to basic control, communications, and bio systems.

*3 hours lab.*

**Prerequisite(s):** EE 98 and MATH 33A or MATH 33LA (each with grade of "C-" or better) and Satisfactory Score on the Circuit Concepts Placement exam.

**Corequisite(s):** EE 110.

**Grading:** Graded

*EE 110W - Circuits and Systems Workshop*

1 unit(s)

Workshop designed to help all students excel in EE 110. Students work in groups on challenging circuit analysis and systems problems to improve their understanding of concepts in EE 110 and lay the groundwork for success in future

EE courses.

**Prerequisite(s):** EE 98 and MATH 33A or MATH 33LA (each with a "C-" or better).

**Corequisite(s):** EE 110 and EE 110L.

**Grading:** Credit / No Credit

*EE 112 - Introduction to Signal Processing*

3 unit(s)

Introduction to discrete-time signal processing. Sampling and aliasing. Frequency response, transfer function, poles/zeros. Z-transform. FIR and IIR filtering. The four Fourier transforms. Computing spectra and spectrograms. Bio-systems, speech, music, image processing applications with Matlab.

**Prerequisite(s):** EE 98 and MATH 33A (each with grade of "C" or better) and Satisfactory Score on the Circuit Concepts and Problem Solving Placement Exam. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 118 - Digital Logic Circuit Design*

4 unit(s)

Fundamentals of digital logic design. Boolean logic, MUXes, DEMUXes, decoders, encoders, comparators, arithmetic blocks, flip-flops, counters, registers, RAMs/ROMs, PLDs and FPGAs. Design of a simple computer CPU. Schematic capture and Hardware Description Language (HDL), particularly, Verilog.

*Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** EE 97 and EE 98 with a grade of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 120 - Microprocessor Based System Design*

4 unit(s)

Advanced algorithmic processes using MSI and SSI integrated circuits. Organization and interface requirements for a microcomputer. Hardware-software tradeoffs in digital systems.

*Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** EE 118 with grade of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 122 - Electronic Design I*

4 unit(s)

Design of circuits based on OPAMPS, diodes, MOSFETs and BJT's, as applied to the contemporary issues of biomedical devices and power generation (solar cell modules), and power usage. Electronic CAD tools (LTSPICE) will be used extensively, PCB board design.

*Lecture 4 hours/lab 3 hours.*

**Prerequisite(s):** EE 110 and EE 97 both with grades of "C-" or better. Allowed Declared Majors: Electrical Engineering, Computer Engineering.

**Grading:** Graded

*EE 124 - Electronic Design II*

4 unit(s)

Analysis and design of Analog integrated circuits using Bipolar and CMOS transistors. Topics include current sources, active loads, differential amplifiers, frequency response, frequency compensation, output stages, feedback amplifiers and operational amplifiers.

*Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** EE 122 and EE 128 both with grades of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 125 - Analog CMOS Integrated Circuits*

3 unit(s)

Analysis and design of analog CMOS integrated circuits. Voltage references, noise analysis, amplifiers and comparators, sample-and-hold circuits, switched-capacitor circuits and converters.

**Prerequisite(s):** EE 124.

**Grading:** Graded

*EE 127 - Electronics for Biomedical Applications*

3 unit(s)

Study of the fundamental concepts of electrical circuits relevant to the use and design of biomedical instruments and devices currently used for patient care using several examples.

**Prerequisite(s):** EE 98 with a grade of "C-" or better.

**Grading:** Graded

*EE 128 - Physical Electronics*

3 unit(s)

Review of semiconductor theory. Methods of device fabrication; p-n junctions; bipolar junction transistors; field-effect transistors (FETS); MOSFETs; and equivalent circuits.

**Prerequisite(s):** MATE 153 with a grade of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Corequisite(s):** EE 122. Lab/Act: Lecture 3 hours.

**Grading:** Graded

*EE 129 - Introduction to Integrated Circuits Processing and Design*

3 unit(s)

Basic processes involved in fabrication of integrated circuits; semiconductor physics, material preparation, oxidation, diffusion; photolithographic, thin-film deposition and etching. Simple component layout and evaluation of device parameters.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153.

**Grading:** Graded



*EE 130 - Electric Machines and Drives*

3 unit(s)

This course introduces the theory of operation and the control of electro-mechanical machines including DC machines, DC brushless machines, and AC synchronous machines and their electric drive systems. Applications include robotics, electric vehicle, and electric power generation.

Lecture 3 hours.

**Prerequisite(s):** EE 110 and EE 112 with grade of "C-" or better.

**Grading:** Graded

*EE 132 - Theory of Automatic Controls*

3 unit(s)

Theory of linear feedback control systems. Transfer functions and block diagrams; root-locus techniques; frequency analysis techniques; compensation; transducers and servo-system elements.

**Prerequisite(s):** EE 110 with a grade of "C-" or better. EE 112. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 134 - Power Systems*

3 unit(s)

Introduction to power systems including: complex power, power factor correction, power quality, power flow analysis, grid steady state and transient stability, fault analysis, integration of renewable energy, theory and modeling of transformers, transmission lines, and synchronous generators.

**Prerequisite(s):** EE 110 and EE 112 with a grade of "C-" or better.

**Grading:** Graded

*EE 135 - Control and Electronics for Renewable Energy Systems*

3 unit(s)

This course introduces control methodology and electrical systems commonly used in renewable energy systems including wind turbines and solar panels. Topics include control of turbine, generator, peak power tracking for solar panels, and power conversion circuits.

**Prerequisite(s):** EE 110 and EE 112 both with grades of "C-" or better, or ME 147 with a grade of "C-" or better.

**Grading:** Graded

*EE 136 - Semiconductor Power Electronics*

3 unit(s)

Study of power electronic circuits and applications including switch-mode regulators, AC-DC, DC-DC and DC-AC conversion, uninterruptible power supplies, variable speed drives, active filtering and harmonic cancellation; laboratory demonstrations. Applications include electric vehicle propulsion and spacecraft power systems.

**Prerequisite(s):** EE 122 with a grade of "C-" or better.

**Grading:** Graded

*EE 138 - Embedded Control System Design*

3 unit(s)

Introduction to designing microcontroller-based embedded control systems using C programs to control input/output peripherals including general purpose I/Os, state machines, analog interfaces, pulse width modulation, digital filter implementation, design of control systems for motor, and interrupt concept.

**Prerequisite(s):** EE 112 and EE 120 both with grades of "C-" or better.

**Grading:** Graded

*EE 140 - Principles of Electromagnetic Fields*

3 unit(s)

Static electromagnetic fields and waves using vector calculus methods. Development of Maxwell's Equations. Dynamic effect of time varying electromagnetic fields and its applications.

**Prerequisite(s):** EE 98, PHYS 52, MATH 33A or MATH 33LA all with grades of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 153 - Introduction to Digital Signal Processing*

3 unit(s)

Digital signal processing fundamentals, discrete system theory, convolution, DFT, and design of IIR and FIR filters. MATLAB based lab exercises are used for verification of DSP principles, signal analysis, and design of filters for audio signals.

**Prerequisite(s):** EE 112.

**Grading:** Graded

*EE 160 - Principles of Communication Systems*

3 unit(s)

Introduction to communication systems. Harmonics for analysis of amplifiers and amplitude modulators. Sampling and its application to frequency shifting. Communication receiver architectures: Direct-conversion and heterodyne. Amplitude modulators and demodulators. Basic binary modulation techniques.

*Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** EE 112 with a grade of "C-" or better.

**Grading:** Graded

*EE 161 - Digital Communication Systems*

3 unit(s)

Introduction to communication systems and noise. Binary communication systems. Pulse amplitude modulation. Digital modulation of amplitude, phase and frequency of a carrier signal. Modulation and signaling for wireless communication channels. Digital wireless communication using multiple antennas.

**Prerequisite(s):** EE 102, EE 112. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 165 - Photovoltaic Fabrication/Testing Lab*

1 unit(s)

Laboratory course covering photovoltaic (solar cell) design, fabrication, and testing. TCAD simulation tools will be used in design. Fabrication processes will include cleaning, surface texturing, deposition, diffusion, metallization, photolithography, etching, and electrical testing.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153 or corequisite of MATE 129.

**Grading:** Graded

*EE 166 - Design of CMOS Digital Integrated Circuits*

3 unit(s)

Analysis and design of MOS based combinational sequential digital integrated circuits. Industry standard CAD tools (Cadence) will be used extensively in homework and a group final project.

**Prerequisite(s):** EE 128. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 168 - Microfluid Fabrication and Design*

1 unit(s)

Hands-on design, fabrication, and testing of microfluidic devices. Processes including photolithography, soft lithography, and plasma bonding. Design problems for microfluidic devices. Introduction to microfluidics simulation.

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*EE 169 - Microelectromechanical Systems Fabrication and Design*

1 unit(s)

Hands-on design, fabrication, and testing of micro electro-mechanical systems (MEMS). Processes including photolithography, etching, and metal deposition applied to MEMS. Design problems for MEMS transducer components. Introduction to MEMS simulation.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*EE 172 - Introduction to Microwave Engineering*

3 unit(s)

Topics in Microwave Engineering: Standard RF measurements, waveguide resonator and antenna. Transmission line theory, impedance matching, and design approach of selected microwave components. Emphasis will be on the fundamental principles and industrial practice of the designs. Commercial CAD tools.

**Prerequisite(s):** EE 98, PHYS 52, MATH 33A or MATH 33LA (each with a grade of "C" or better). Allowed Declared Major: Electrical Engineering.

**Corequisite(s):** EE 140.

**Grading:** Graded

*EE 174 - Analog Peripheral for Embedded Systems*

3 unit(s)

Introduction to analog peripherals for embedded systems such as ADC/DAC, DC-DC Converters, Energy harvesting and solar cells, near field communication, RF-IDs, phase lock loops, clock generators, displays and touch screens. Industry based projects and applications are integral to the course.

**Prerequisite(s):** EE 110 and EE 112 both with grades of "C-" or better. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 176 - Computer Organization*

3 unit(s)

Design of instruction sets, addressing modes and memory management. Data and control paths of the CPU. Microprogramming. Arithmetic units and I/O organization.

**Prerequisite(s):** EE 120.

**Grading:** Graded

*EE 178 - Digital Design with FPGAs*

3 unit(s)

Advanced Digital Design Technologies as they relate to synchronous digital systems. Requires student design projects that deal with the use of CAD tools for the Design, Simulation, and Implementation of Systems with FPGAs.

**Prerequisite(s):** EE 118.

**Grading:** Graded

*EE 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics arranged by the student and faculty mentor. Enrollment is handled by the EE department office. A completed and approved application is required.

**Prerequisite(s):** BS in Electrical Engineering Senior in good standing. Allowed Declared Major: Electrical Engineering. Not available to Open University Students.

**Grading:** Credit/No Credit

*EE 181 - Fundamentals of Internetworking*

3 unit(s)

Data communication concepts, protocols, algorithms; 7-layer OSI reference model and implementations; physical media (fiber, wire); switching systems; LAN architectures and components, Ethernet, FDDI, TCP/IP, and related standards.

**Prerequisite(s):** EE 118.

**Grading:** Graded

*EE 189 - Special Topics in Electrical Engineering*

3 unit(s)

Advanced topics in Electrical Engineering. Content varies from semester to semester.

**Prerequisite(s):** Instructor consent/senior standing.

**Grading:** Graded

*EE 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*EE 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*EE 198A - Senior Design Project I*

1 unit(s)

Team design project proposal, business plan, oral design presentations of the initial phases of the design project, a written and oral defense of the proposed design project. Global and social issues in engineering. Individual written reports on professional development plans.

*Misc/Lab: Lab 3 hours*

*Satisfies SJSU Studies S: Self, Society & Equality in US when taken as part of EE major sequence.*

**Prerequisite(s):** EE Senior in good standing in Major, ENGR 100W (with grade of "C" or better), EE 120, EE 122, and EE 128 (with grades of "C-" or better).

**Pre/Corequisite(s):** concurrent enrollment with ENGR 195A or completion of ENGR 195A or completion of GE Area S.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: EE 198B, ENGR 195A and ENGR 195B

*EE 198B - Senior Design Project II*

3 unit(s)

Implementation of group design projects initiated in EE 198A. Group oral and written reports. Integrate global and social issues in engineering.

*Lab 9 hours.*

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding when taken as part of the EE Major sequence.*

**Prerequisite(s):** EE 198A with a grade of "C-" or better, Senior EE student in good standing. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration

in, 100W is strongly recommended.

**Pre/Corequisite(s):** Concurrent enrollment with ENGR 195B or completion of ENGR 195B or completion of GE Area V.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: EE 198A, ENGR 195A and ENGR 195B. All of SJSU Studies courses require completion of the WST and upper division standing.

*EE 209 - Network Security*

3 unit(s)

Network security protocols and applications, cryptography algorithms, authentication systems, intrusion detection, network attacks and defenses, system-level security issues, and building of secure systems.

**Prerequisite(s):** CMPE 206 or EE 281 or instructor consent.

**Grading:** Graded

*EE 210 - Linear System Theory*

3 unit(s)

Comprehensive overview of signals and linear systems with discrete-time emphasis. System attributes. Fourier transform families and properties. Convolution and correlation. The 2-sided z-transform. FIR and IIR filters analysis and realizations. State variable modeling. Sampling, filtering, and other applications. Computer simulations.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*EE 220 - Radio Frequency Integrated Circuit Design I (RFIC Design I)*

3 unit(s)

Study of transmitter and receiver architectures and their building blocks for modern wireless communication standards, high frequency modeling of passive and active circuit components realized in CMOS and BiCMOS technologies, networks theory, wideband matching, nonlinearity and noise link budgets.

**Prerequisite(s):** EE 124 or instructor consent.

**Grading:** Graded

*EE 221 - Semiconductor Devices I*

3 unit(s)

Study of semiconductors in equilibrium and nonequilibrium conditions; principles of semiconductor device fabrication, p-n junctions; and junction transistors; device modeling for circuit analysis.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*EE 222 - Advanced Integrated Devices*

3 unit(s)

Complementary Metal-Oxide Semiconductor (CMOS) device scaling; Silicon-On-Insulator (SOI) and 3D transistor technologies; Device modeling and simulation; Surveys on Wide-Band-Gap power electronics; 3D and cross-point memories, neuromorphic computing, opto-electronics and superconductor electronics.

Lecture 2 hours/lab 3 hours.

**Grading:** Graded

*EE 223 - Analog Integrated Circuits*

3 unit(s)

Introduction to analog integrated circuits. Bipolar and MOS transistor models. Analysis and design of monolithic operational amplifiers. Frequency response. Feedback amplifier theory and design. Applications to specific case studies, such as phase-locked oscillators and wide-band amplifiers. Switched-capacitor filters.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EE 224 - High Speed CMOS Circuits*

3 unit(s)

Analysis and design of digital integrated circuits; bipolar and MOS inverters and logic gates; semiconductor memories; gate arrays; standard cells; programmable logic array; computer-aided design; SPICE program is used extensively.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*EE 224B - Advanced High Speed CMOS Circuits*

3 unit(s)

EE224B covers advanced high speed CMOS design circuit design and challenges. The course will focus on design of advanced circuits such as arithmetic circuits, memory. Overall concepts will be tied together by a design project. Team work will be stressed.

**Prerequisite(s):** EE 224

**Grading:** Graded

*EE 225 - Introduction to Quantum Computing*

3 unit(s)

Hardware implementation and algorithms for quantum computing. Essential quantum mechanics including Bra-Ket notation, spins, Hilbert Space, Simple Harmonic Oscillator, Block Sphere, Tensor Product, Density Operator. Implementation of Qubits including electron spins in quantum dots and Josephson junction. Qubits such as topological insulator, trapped ion and defect centers. Quantum gates, logics, circuits, and representative quantum computing algorithms (Deutsch's, Grover's and Shor's). Error correction. Quantum computing simulation and experiment through IBM Q Experience.

**Prerequisite(s):** EE 221 or instructor consent

**Grading:** Graded

*EE 227 - Signal Integrity in AMS IC*

3 unit(s)

This course studies essential blocks for wire-line communication integrated circuits such as analog equalizer circuits,

Decision-Feedback Equalization (DFE), Phase Locked Loop (PLL) and Clock and Data Recovery (CDR) circuits. True understanding of system level modeling and behavioral of the PLL will be discussed. Matlab/Simulink Modeling techniques will be introduced as new vehicle for system level design and simulation. Performance metrics, such as random jitter, BER, jitter transfer, jitter tolerance, phase noise, will be introduced. Integrated circuit design consideration for the key essential blocks for PLL and equalizer block will be covered.

**Prerequisite(s):** EE 221.

**Grading:** Graded

*EE 230 - Radio Frequency Integrated Circuit Design II*

*3 unit(s)*

Low noise amplifiers, mixers, power amplifiers, LC voltage controlled oscillators, phase shifters, patch antennas and advanced layout to improve noise, stability, efficiency and bandwidth performance of nanoscale CMOS integrated circuits.

**Prerequisite(s):** EE 220 or instructor consent.

**Grading:** Graded

*EE 231 - Automatic Control Theory*

*3 unit(s)*

Fundamentals of state space techniques in the analysis and synthesis of dynamic control systems; relationship to classical control theory via the Laplace transform; controllability; observability; performance indices discrete systems; introduction to optimal control and Kalman filtering.

**Prerequisite(s):** EE 132.

**Grading:** Graded

*EE 236 - Smart Grid*

*3 unit(s)*

This is an introductory level graduate course that is aimed to provide an overview of a smart power grid development. It covers a variety of topics from power system analysis and renewable technologies to automatic control and system automation.

**Prerequisite(s):** EE 134 Power Systems or instructor consent

**Grading:** Graded

*EE 237 - Vector Control of AC Machines*

*3 unit(s)*

This course introduces modeling and control of electrical drive for AC motors and generators including induction, permanent magnet, and synchronous machines. The dynamic model, control methods, current regulation, and space vector modulation are discussed by both analysis and computer simulation.

**Prerequisite(s):** EE 210

**Grading:** Graded

*EE 238 - Advanced Power Electronics*



3 unit(s)

Adv. study of switching regulators in power management, including energy conversion topologies, state space averaging techniques, assessing voltage mode/current mode control to embedded hardware. Applications include photo-voltaic /solar grid-tied inverters, active power factor correction, analysis, computer simulation.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*EE 239 - Selected Topics in Systems and Control*

3 unit(s)

Critical analysis of current literature pertinent to control systems.

**Prerequisite(s):** EE 231 and instructor consent.

**Grading:** Graded

*EE 241 - Fundamental of Signal Integrity*

3 unit(s)

EE241 aims to introduce the essential knowledge on signal integrity. The course covers transmission line theory, channel loss, coupling, signal lunch and termination, timing issues on clock distribution and EDA tools usage for modeling and analysis of signal integrity in a system.

**Grading:** Graded

*EE 242 - Embedded Hardware Design*

3 unit(s)

Advanced topics dealing with microprocessor and microcontroller hardware and firmware including processor architecture, advanced memory and I/O systems design, multilevel bus architecture, interrupt systems. Design project.

**Prerequisite(s):** CMPE 180A and CMPE 180D, classified standing, or instructor consent. Computer Engineering or Software Engineering majors only.

**Grading:** Graded

*EE 249 - Integrated Circuits for Biomedical Application*

3 unit(s)

EE249 aims to introduce the essential knowledge and techniques for designing integrated circuits for biomedical applications. An introduction to the deep-submicron effects and noise in transistors, the principles for designing low-power, low-noise electronics and RF/inductive coupling links will be discussed.

**Prerequisite(s):** EE 223

**Grading:** Graded

*EE 250 - Probabilities, Random Variables and Stochastic Processes*

3 unit(s)

Random variables, random processes, power spectral density, optimum linear systems, queuing theory.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*EE 251 - Digital Communication Systems*

*3 unit(s)*

Review of random processes. Gaussian noise. Sampling, quantization and pulse transmission. Bandlimited channels and equalization. Signal space analysis. Digital modulation techniques. Tradeoffs between power and transmission rate.

**Prerequisite(s):** EE 250.

**Grading:** Graded

*EE 252 - Advanced Communication Systems*

*3 unit(s)*

Digital modulation techniques for power and bandwidth limited communication systems. Offset QPSK, GMSK, noncoherent modulation and detection. Multipath fading channels, diversity and combining methods.

**Prerequisite(s):** EE 250

**Grading:** Graded

*EE 253 - Digital Signal Processing*

*3 unit(s)*

DSP systems analysis and design. Spectral analysis and spectrograms. FIR and IIR digital filters. Quantization effects. Decimation, interpolation, and sample rate conversion. Perfect reconstruction filter banks. The discrete wavelet transform and applications. Computer implementations.

**Prerequisite(s):** Graduate standing or instructor consent

**Grading:** Graded

*EE 254 - Adaptive Signal Processing*

*3 unit(s)*

Random signals analysis. Optimal Wiener filtering. Adaptive LMS and RLS algorithms and variants. Application to noise cancellation, interference cancellation, system identification, channel equalization, array processing, among others. Linear prediction and speech coding. Lattice filters implementation. Classical and model-based spectral estimation.

**Prerequisite(s):** EE 250 and EE 253.

**Grading:** Graded

*EE 255 - Wireless/Mobile Communications*

*3 unit(s)*

Cellular mobile radio systems, propagation models, multipath propagation effects, diversity and combining noise, and interference are discussed. Analog and digital modulation techniques and their performance measures multiple access techniques such as FDMA, TDMA and CDMA are discussed.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*EE 256 - Programmable DSP Architectures and Applications*

3 unit(s)

Implementations of DSP algorithms using programmable DSP architectures. Internal architectural requirements for a DSP device, system level hardware/software design and applications of programmable DSP architectures.

**Prerequisite(s):** EE 210.

**Grading:** Graded

*EE 257 - Machine Learning for Electrical Engineers*

3 unit(s)

Introduction to machine learning for electrical engineers. Course covers statistical models for data analysis, inference, and prediction. Case studies and projects related to applications in Electrical Engineering.

**Grading:** Graded

*EE 258 - Neural Networks*

3 unit(s)

Fundamentals and applications of neural networks and learning processes. Course covers models of a neuron, perceptrons, Linear Mean Square (LMS) algorithm, multilayer perceptrons, back propagation algorithm, and radial basis function networks. Deep feedforward networks, regularization for deep learning, and optimization for deep models. Convolutional neural networks. Recurrent and recursive networks.

**Prerequisite(s):** Graduate standing or instructor consent. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 259 - Selected Topics in Signal Processing*

3 unit(s)

Advanced topics in signal processing. Content varies from semester to semester.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*EE 260 - RFID Systems*

3 unit(s)

This course gives an introduction to RFID systems. Emphasis is on RFID technology applications in biomedical devices, object tracking and identification. Complemented with practical laboratory experiments. A final project (written report and oral presentation) covers RFID applications in a topic of interest to the student.

**Prerequisite(s):** EE 251 or instructor consent.

**Grading:** Graded

*EE 261 - Acq. & Analysis of Biomedical Imaging*

3 unit(s)

Study of the image acquisition physics and analysis concepts of biomedical imaging systems like X-Ray, MRI, Ultrasound etc. currently used for patient care in diagnosing various disease conditions.

**Prerequisite(s):** EE 210 or equivalent.

**Grading:** Graded

*EE 263 - Digital Image Processing*

*3 unit(s)*

Teaches the fundamental principles and algorithms for digital image processing and introduces students to computer vision and important applications. Topics include image formation, modeling, transforms, enhancement, segmentation, representation, feature extraction, and object recognition. Through a set of homework assignments and a comprehensive project, students will implement cutting-edge computer vision algorithms.

**Prerequisite(s):** Graduate Standing.

**Grading:** Graded

*EE 265 - Software-Defined Radio Communications*

*3 unit(s)*

Experimental approach to designing and building wireless communications. Topics include analog/digital transmission, ADC/DAC, and wireless channel modeling. Students are exposed to MATLAB, software defined radios (USRP boards), GNU Radio, GRC (GNU Radio Companion) in homework assignments and projects.

**Prerequisite(s):** EE 210 or instructor consent.

**Grading:** Graded

*EE 270 - Advanced Logic Design*

*3 unit(s)*

Logic design theory, advanced logic minimization, design and analysis of sequential circuits, asynchronous circuit design, logic circuit testing and design for testability. Review Verilog/VHDL. CAD tools are used for design, modeling and simulation.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*EE 271 - Digital System Design and Synthesis*

*3 unit(s)*

In depth study of concepts and practices in modern digital system design, such as high-speed arithmetic, cache memory design, advanced pipelining and processor design. Verilog or VHDL is used for simulation and synthesis.

**Prerequisite(s):** EE 270.

**Grading:** Graded

*EE 272 - SoC Design & Verifi. with System Verilog*

*3 unit(s)*

The course covers topics in System-on-Chip design and verification with SystemVerilog. Major topics include top-down SoC design; design metrics, techniques, and system-level synthesis; IP integration and system-level verification; SystemVerilog design hierarchy, data types, assertions, interfaces, verification constructs, and testbench structures.

**Prerequisite(s):** EE 271 or instructor consent.

**Grading:** Graded

*EE 273 - Logic Verification with UVM*

*3 unit(s)*

EE273 covers non-design System Verilog and Universal Verification Methodology (UVM). It introduces logic verification methodologies and techniques. No prior object oriented programming is assumed. UVM is practiced on sample designs in lab projects with industrial simulation tools.

**Grading:** Graded

*EE 275 - Advanced Computer Architectures*

*3 unit(s)*

Performance metrics, instruction set architectures, instruction pipelining and pipeline hazards, instruction-level parallelism, multithreading, cache and virtual memory, I/O performance and advanced topics in storage systems, topologies and hardware/software issues of interconnection networks.

**Prerequisite(s):** EE 270 or EE 271.

**Grading:** Graded

*EE 276 - Parallel Computer Systems*

*3 unit(s)*

Advanced concepts in parallel computer architectures and algorithms. Cache memory for multiprocessor systems, multistage networks, pipelined vector processors, massive parallel processors, systolic arrays and array processors, parallel processing algorithms and time complexity analyses. Design project.

**Prerequisite(s):** EE 270.

**Grading:** Graded

*EE 276B - Multi-core Architectures*

*3 unit(s)*

Topics cover various areas of parallel computation including performance metrics, shared memory computer, snoop-based multiprocessor design, directory-based cache coherence, multiple level cache, multi-core architecture symmetric and asymmetric. The commercial multi-core architectures and multi-core programming will also be addressed in this course. There will be a term project be developed and presented by students on selected topics.

**Prerequisite(s):** EE 275 or Lecturer Consent

**Grading:** Graded

*EE 277A - Embedded SoC Design*

*3 unit(s)*

Embedded system design challenge and metrics. Processor and compiler technologies. Software and hardware architectures for embedded system design. The design of co-processors, parallel processors, graphics processors and MPSOC processors. Basic concept of high performance computing (HPC)

**Prerequisite(s):** EE 210

**Grading:** Graded

*EE 278 - Digital Design for AI and DSP*

3 unit(s)

Digital design and FPGA/ASIC/VLSI-based implementation of high-performance DSP/AI/Machine Learning systems. FPGA and GPU architectures, various deep neural network design examples of video/imaging/speech and AI/machine learning include applications to object recognition for autonomous vehicles and speech recognition.

**Prerequisite(s):** EE 270 or EE 271

**Grading:** Graded

*EE 279 - Special Topics in Digital Systems*

3 unit(s)

Advanced topics in digital systems. Content varies from semester to semester.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*EE 280 - Advanced Network Security*

3 unit(s)

Current topics in advanced network security topics related to IoT systems, blockchain, SDN (software-defined networks), wireless networks, and cloud computing. Machine/deep learning with applications in network security. Course blends theory and practice.

**Prerequisite(s):** EE 281 and EE 209 or instructor consent

**Grading:** Graded

*EE 281 - Internetworking*

3 unit(s)

Network layers, packet networks, ATM, SONET, TCP/IP protocols, high-performance switches and routers, queuing theory, error detection coding, quality of service, multicast, IPv6.

**Prerequisite(s):** EE 250 or equivalent. Allowed Declared Major: Electrical Engineering.

**Grading:** Graded

*EE 283 - Broadband Communication Networking*

3 unit(s)

Broadband Networks Overview, Tunneling, VPNs, and Multi-Protocol Label Switching (MPLS); All-Optical Networks, Architecture of High-Speed Switches and Routers, Data Center Networks, Network Virtualization, Software-Defined Networking (SDN), Packet Delay and Network Queueing Models, and Quality of Service.

**Prerequisite(s):** EE 281 or equivalent

**Grading:** Graded

*EE 284 - VoIP and Multimedia Networks*

3 unit(s)

Public-Switched Telephone Network and SS7 Protocol, Voice over IP (VoIP) Signaling Protocols, H.323, Session Initiation Protocol (SIP), Internetworking VoIP, Regular, and Wireless Cellular Networks, Media Gateways, Media

Preparation and Compression, Codecs, Multimedia Networks, IPTV, VoD, Content Delivery Networks (CDNs).

**Prerequisite(s):** EE 281 or equivalent

**Grading:** Graded

*EE 286 - Mobile and Wireless Networking*

3 unit(s)

This course covers recent and upcoming networking topics on mobile and wireless scenarios and applications. The course focuses on mobile and wireless network standards including cellular (LTE), Wi-Fi, Bluetooth, and routing algorithms including DSDV, DSR, TORA, and AODV.

**Prerequisite(s):** EE 250

**Grading:** Graded

*EE 287 - ASIC CMOS Design*

3 unit(s)

CMOS ASIC design principles. Topics include ASIC architectures, cell libraries, synthesis issues, latches, clocking multiple clock synchronizers, delay calculation, timing closure, I/O specification, and testing.

**Prerequisite(s):** EE 271 or Instructor consent.

**Grading:** Graded

*EE 288 - Data Conversions/Analog Mixed Signal ICs*

3 unit(s)

Study of different architectures for analog to digital convertors and digital to analog convertors. System level modeling & simulation. Design considerations and techniques for circuit implementation. Data conversion testing methods.

**Prerequisite(s):** EE 221

**Grading:** Graded

*EE 289 - Special Topics in Networking*

3 unit(s)

Advanced topics in networking that are currently of high interest to both industry and academia. Content varies from semester to semester, and may include, but not limited to, network security, virtual private network, network availability and reliability, network management.

**Grading:** Graded

*EE 295 - Technical Writing - Engineering Ethics*

3 unit(s)

Students learn to analyze and write about issues in engineering ethics. Three types of ethics are explored: ethics of the person, the process, and the product.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*EE 296A - ES-level and Physical-level Design*

3 unit(s)

Electronic System Level (ESL) Description of Systems using SystemC/OpenCL, High Level Synthesis from ESL Languages, Physical design and verification, Floorplanning, Placement, Routing, Power Analysis, Signal Integrity Analysis, ESL simulations and automate physical design tasks

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*EE 297A - MSEE Project Proposal*

3 unit(s)

Written project proposal development for MSEE research/design project, subsequently culminating in EE 297B or EE 299B. An approved application for EE 297A registration including project title and abstract and graduate seminar participation required.

*Misc/Lab: 9 hours lab*

**Prerequisite(s):** Classified Standing, GPA of at least 3.3 or GPA of at least 3.0 and graduate coordinator consent, satisfied GWAR requirement or EE 295 may be taken concurrently.

**Grading:** Credit/No Credit

*EE 297B - MSEE Project*

3 unit(s)

Implementation of the research/design project, culminating the MSEE work proposed in EE 297A or EE 299A. Formal Master's project report and its formal defense required.

**Prerequisite(s):** EE 297A or EE 299A with grade of CR. Satisfaction of GWAR (EE 295 or ENGR 200W with C or better).

**Grading:** Graded

*EE 298 - Special Problems*

1-6 unit(s)

Advanced individual work in electrical engineering.

**Prerequisite(s):** Graduate standing. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*EE 298I - Electrical Engineering Internship Experience*

1-3 unit(s)

For this course a student is employed in industry as an electrical engineering intern or in an equivalent position. The course supplements and supports student's plan of study.

*Course may be repeated for credit for up to 9 units.*



**Prerequisite(s):** Graduate standing.

**Grading:** Mandatory CR/NC/RP

*EE 299A - MSEE Thesis Proposal*

3 unit(s)

Written Thesis proposal development for research/design, subsequently culminating the MSEE work in EE 299B or EE 297B. An approved application for EE 299A registration, including project title and abstract and graduate seminar participation required.

**Prerequisite(s):** Classified, GPA of at least 3.3 or above (GPA of at least 3.0 and graduate coordinator consent), satisfied GWAR requirement or EE 295 may be taken concurrently.

**Grading:** Credit/No Credit

*EE 299B - MSEE Thesis*

3 unit(s)

Implementation of the research/design, culminating the MSEE work proposed in EE 299A or EE 297A. Formal Master's Thesis report and its formal defense required.

**Prerequisite(s):** EE 297A or EE 299A with grade of CR and satisfied GWAR requirement

**Grading:** Mandatory CR/NC/RP

*EE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** RP grade in a preceding thesis or project semester

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of General Engineering (Interdisciplinary)

**Office:** Engineering Building 491

**Telephone:** 408-924-3968 (Voice); 408-924-3883 (Fax)

**Website:** [www.sjsu.edu/GE](http://www.sjsu.edu/GE)

### Professors

Patricia Ryaby Backer

Ahmed Hambaba

Ping Hsu, Director

Belle Wei

## Assistant Professors

Anne Christie Boylan-Ashraf  
Farshid Marbouti

# Overview

In addition to the traditional disciplinary majors, the College of Engineering offers an MS Engineering (MSE) with special concentrations, and a BS General Engineering. Both the BS and MS programs encompass interdisciplinary study. The College also offers minors in Green Engineering Minor and Applied Computing for Behavioral and Social Sciences.

## Undergraduate

### General Engineering, BS

The Bachelor of Science General Engineering, offered by the Department of General Engineering (Interdisciplinary), is an interdisciplinary, broadly focused, and customizable program. The program is intended for students interested in understanding engineering practices as applied across different fields of study or emerging technologies. The first two years focus on courses in math, science and general education areas similar to that of other engineering curricula, but may include prerequisite courses required for upper division studies. The second two years include required engineering depth and breadth elective courses. Students can select one of the pre-approved engineering depth 4-course sequences (12 units) from an engineering program in the college. Two technical elective courses (6 units) can be chosen from other engineering programs or for supplementing the chosen depth courses. The academic breadth or minor requirement (12 units) allows students to take approved courses based on their career interests or pursue a minor degree, such as: Business, Computer Science, Bioinformatics, Green Engineering or Applied Computing for Behavioral and Social Scientists.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	18
Major Preparation	30
Major Core Requirements	16
Interdisciplinary Courses	26
Technical Focus	18
Academic Breadth or Minor	12
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

## Major-Specific Graduation Requirements

The following courses in Preparation for the Major must be completed with a "C- or better": ENGL 1B.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## University Requirements (18 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 *6 unit(s) (C1+C2)*
- AMS 1B - American Cultures 1877 to present *6 unit(s) (C2+D3+US123)*

### Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

A grade of C or better (C- not accepted) is required to meet graduation requirement.

## Major Preparation (30 units)

- CHEM 30A - Introductory Chemistry 3 unit(s) (B1+B3)  
*CHEM 1A or CHEM 1B may be used in lieu of CHEM 30A.*
- BIOL 10 - The Living World 3 unit(s) (B2)
- ENGL 1B - Argument and Analysis 3 unit(s) (C2)  
*or equivalent second semester composition course.*
- MATH 30 - Calculus I 3 unit(s) (B4)  
*MATH 30X may be used instead of MATH 30.*
- MATH 31 - Calculus II 4 unit(s) (B4)  
*MATH 31X may be used instead of MATH 31.*
- MATH 32 - Calculus III 3 unit(s) (B4)  
*MATH 32X may be used instead of MATH 32.*
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)

## Differential Equations (3 units)

Complete one course:

- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 unit(s)
- MATH 33LA - Differential Equations and Linear Algebra 3 unit(s)

## Major Requirements (60 units)

### Core Courses (16 units)

- ENGR 10 - Introduction to Engineering 3 unit(s) (E)
- EE 97 - Introductory Electrical Engineering Laboratory 1 unit(s)
- EE 98 - Introduction to Circuit Analysis 3 unit(s)
- ENGR 102 - Renewable Energy Engineering 3 unit(s)
- CMPE 30 - Programming Concepts and Methodology 3 unit(s)

### Mechanics (3 units)

Complete one course:

- CE 95 - Theory and Application of Statics 3 unit(s)
- MATE 25 - Introduction to Materials 3 unit(s)

### Interdisciplinary Courses (26 units)

Complete the required courses:

- ENGR 100W - Engineering Reports 3 unit(s) (Z+R)

- ISE 130 - Engineering Probability and Statistics 3 unit(s)
- ISE 102 - Engineering Economic Systems 3 unit(s)
- ME 106 - Fundamentals of Mechatronics Engineering 3 unit(s)
- ENGR 101 - Engineering Seminar 1 unit(s)  
*Repeat 1 unit course 2 times.*
- ENGR 120 - Programming Concepts for Behavioral and Social Science Applications 3 unit(s)
- ENGR 199A - Senior Design Project I 1 unit(s)
- ENGR 199B - Senior Design Project II 2 unit(s)
- BUS3 186 - Professional and Business Ethics 3 unit(s) (S)
- TECH 198 - Technology and Civilization 3 unit(s) (V)

## Technical Focus (18 units)

*Must be approved by the advisor.*

## Engineering Depth of Four Course Sequence (12 units)

## Technical Electives (6 units)

## Academic Breadth or Minor (12 units)

*Must be approved by the advisor.*

## Total Units Required (120 units)

# Master

## Engineering, Electronic Materials and Devices Concentration, MS

The concentration in Electronic Materials and Devices, offered by the Department of General Engineering (Interdisciplinary), provides students with an in-depth education in electronic materials processes and the design of semiconductor devices. This concentration includes elective emphases in the areas of Electronic Materials, Custom Analog VLSI and Custom Digital VLSI. Students may also choose to combine concentration electives to develop a custom emphasis, such as Mixed Signal VLSI.

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Master's Requirements (30 units)

## Core Courses (6 units)

- ENGR 201 - Engineering Analysis 3 *unit(s)*

### Complete One Course From:

- ENGR 202 - Systems Engineering 3 *unit(s)* (*ENGR 202* for Plan B (Project) students only)
- ENGR 203 - Engineering Management 3 *unit(s)*

### Required Concentration Courses (9 units)

- EE 221 - Semiconductor Devices I 3 *unit(s)*
- MATE 129 - Introduction to Integrated Circuits Processing and Design 3 *unit(s)*
- MATE 153 - Electronic, Optical and Magnetic Properties of Materials 3 *unit(s)*

### Depth of Study Electives (9 units)

Choose 9 units of Advisor approved clusters of electives

### Culminating Experience (3-6 units)

#### Plan A (Thesis)

- ENGR 281 - Master's Project/Thesis Preparation Seminar 1 *unit(s)*
- ENGR 299 - Master's Thesis 1-6 *unit(s)*

#### Plan B (Project)

- ENGR 281 - Master's Project/Thesis Preparation Seminar 1 *unit(s)*
- ENGR 298 - Master's Project 2 *unit(s)*

### Total Units Required (30 units)

## Engineering, MS

The MS Engineering degree, offered by the Department of General Engineering (Interdisciplinary), is an interdisciplinary program with the primary objectives of offering the practicing engineer the opportunity to develop a wide range of knowledge and skills needed to function in today's complex industrial environment. The program is designed to provide flexibility for students who need coursework that is truly interdisciplinary and not available through the other engineering programs in the college. The MS-Engineering programs typically include courses from at least three different programs in the College of Engineering and may also use courses in the College of Science or the College of Business. There are some specialized programs offered off-campus, such as the accelerated joint degree MBA/MS Engineering, which is offered in coordination with the College of Business. Additional off-campus specialized engineering graduate programs have been established at local industry sites. The MS Engineering programs include participation with local industry professionals as committee members and sponsors of master's projects and theses.

## Requirements for Admission to Classified Standing

Students seeking admission to MS Engineering programs must meet the general university requirements for admission as outlined in this catalog. In addition, the applicant must possess a baccalaureate degree from an ABET-accredited engineering program with a grade point average of at least 3.0 in the last 60 semester hours of upper-division work completed in all subjects and in technical subjects only. Students meeting these criteria may be admitted in classified standing; however, students may still be admitted conditionally if they need prerequisite courses for the selected specialization. An engineering technology degree does not satisfy the degree requirement for admission to this program.

## Requirements for Admission to Conditionally Classified Standing

A graduate applicant whose undergraduate record indicates deficiencies in one or more technical areas and/or has a grade point average less than 3.0 in the last 60 semester hours of upper-division work completed in all subjects and in technical subjects only may be admitted for graduate work on a conditionally classified basis. Such students will be expected to satisfactorily complete additional coursework before becoming classified. Students admitted in conditionally classified status may petition for classified status when coursework in deficient areas has been completed, when they have satisfied the Graduation Writing Assessment Requirement (GWAR), and when their records in classes at San José State University show sufficient promise of success in the master's degree program.

## Requirements for Admission to Candidacy

Students seeking the MS Engineering degree must meet the general university requirements for candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that satisfy the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the applicant must demonstrate an aptitude for advanced professional work in engineering as measured by instructor appraisals, analysis of previous academic work, or other appropriate means. Admission to candidacy and approval of programs will be handled by a faculty committee and the student's advisor.

## Completing Requirements for the MS - Engineering

The normal course of study for the MS-Engineering degree consists of 30 semester hours of approved work in the following areas:

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Masters Requirements (30 units)

### Core Courses (6 units)

- ENGR 201 - Engineering Analysis 3 *unit(s)*
- ENGR 202 - Systems Engineering 3 *unit(s)* (GWAR)

### Specialized Core (3-9 units)

### Approved Specialization Electives (9-15 units)

### Culminating Experience (3-6 units)

#### Complete One Sequence From:

#### Master's Thesis Sequence (Plan A)

- ENGR 281 - Master's Project/Thesis Preparation Seminar 1 *unit(s)*
- ENGR 299 - Master's Thesis 1-6 *unit(s)*

#### Master's Project Sequence 1 (Plan B)

- ENGR 281 - Master's Project/Thesis Preparation Seminar 1 *unit(s)*
- ENGR 298 - Master's Project 2 *unit(s)*

#### Master's Project Sequence 2 (Plan B)

- ENGR 295A - Master Project I 3 *unit(s)*
- ENGR 295B - Master Project II 3 *unit(s)*

## Total Units Required (30 units)

Students have the option to complete the requirements for the MS by completing a thesis (Plan A) or a project (Plan B). The student must first complete ENGR 281 - Master's Project/Thesis Preparation Seminar (1 unit) before beginning the thesis or project research.

The MBA/MS Engineering program and special off-campus programs are coordinated through the College of Engineering Graduate and Extended Studies (GES). Students interested in these programs should go to the Graduate and Extended Education section of the College of Engineering web site ([www.ges.sjsu.edu](http://www.ges.sjsu.edu)).

## Minor

## Applied Computing for Behavioral and Social Sciences Minor



An interdisciplinary technology pathway program for behavioral and social science students seeking to develop and apply computing knowledge and skills toward real-world problems. Students learn programming languages such as Python and R, develop a working knowledge of data structures and algorithms, and complete a culminating interdisciplinary project.

### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## **Minor Requirements (12 units)**

- ENGR 120 - Programming Concepts for Behavioral and Social Science Applications 3 *unit(s)*
- ENGR 121 - Data Structures and Algorithms for Behavioral and Social Science Applications 3 *unit(s)*
- ENGR 122 - Data Technology for Behavioral and Social Science Applications 3 *unit(s)*
- ENGR 195E - Interdisciplinary Computing Project 3 *unit(s)*

## **Total Units Required (12 units)**

## **Green Engineering Minor**

Students must complete a minimum of 12 units as listed under the course requirements. All of these units must be outside the requirements for the students major, i.e., the same courses cannot be listed both on the minor and the major forms. ENGR 102 or ME 172 (3 units) and ISE 103 (3 units) are required for all students taking this minor. Students also take one of the Environmental Studies or Business courses listed below. In consultation with the Green Engineering advisor, students must select one additional elective course. It is the student's responsibility to make sure that the prerequisites for each course are met. Students in majors other than engineering will probably need to take additional courses to meet prerequisites for the courses required for this minor. This sequence of courses is the recommended pattern for engineering majors.

### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## **Minor Requirements (12 units)**

### **Core Courses (6 units)**

- ISE 103 - Life Cycle Engineering 3 *unit(s)*

### **Complete One Course From:**

- ENGR 102 - Renewable Energy Engineering 3 *unit(s)*
- ME 172 - Alternative and Renewable Energy Resources 3 *unit(s)*

### **Additional Course (3 units)**

Complete one course from:

- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*
- ENVS 116 - Solar Energy Analysis 3 *unit(s)*
- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 132 - Solar Home Design 3 *unit(s)*
- ENVS 148 - Sustainable Materials Management 4 *unit(s)*
- ENVS 167 - Managing Environmental Issues 3 *unit(s)*

## Elective (3 units)

One additional course to be selected with and approved by the Green Engineering minor advisor

## Total Units Required (12 units)

### *ENGR 5 - Science of High Technology*

3 *unit(s)*

Scientific principles underlying commonly used high technology devices and systems such as the computer, cell phone, IPODS, cameras, and the Internet. Emphasizes practical applications of scientific principles to contemporary engineering products and services.

*Satisfies B1: Physical Science*

**Grading:** Graded

### *ENGR 8Q - Engineering Success*

1 *unit(s)*

Combination of workshop and lab exercises emphasizing group interaction, communications skills and problem solving for incoming students. May be repeated for a total of 2 units.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 2 units.*

**Grading:** Credit/No Credit

### *ENGR 10 - Introduction to Engineering*

3 *unit(s)*

Introduction to engineering through hands-on design projects, case studies, and problem-solving using computers. Students also acquire non-technical skills, such as team skills and the ability to deal with ethical dilemmas.

*Misc/Lab: Lecture 2 hour/lab 3 hours.*

*Satisfies E: Human Understanding & Development*

**Prerequisite(s):** Eligible for MATH 19 and Writing Enrollment Category W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better. Engineering Majors Only

**Grading:** Graded

*ENGR 11 - Intro to Engineering: Transfer Students*

1 unit(s)

Ethical issues related to engineering. Information literacy and communication skills in engineering. Working on multidisciplinary teams on collaborative engineering projects.

**Prerequisite(s):** Upper division transfer student in engineering

**Grading:** Graded

*ENGR 25 - The Digital World and Society*

3 unit(s)

The secure, effective and ethical use of information technology. The effect of such technology on people and institutions. Technology-related challenges to society and policy. Frameworks for the analysis of information technology with respect to its cultural, historical, environmental, and spatial contexts.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*ENGR 60SL - Engineering Projects in Community Service*

1 unit(s)

EPICS is a service-learning course where engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Engineering major; non-remedial

**Grading:** Graded

*ENGR 90W - Technical Writing Workshop*

2 unit(s)

Weekly writing and speaking practice to develop technical communication skills. Repeatable not for graduation credit.

**Prerequisite(s):** Referral by engineering faculty.

**Grading:** Credit/No Credit

*ENGR 92 - Int'l Program Studies*

1-6 unit(s)

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mixed Grading

*ENGR 100W - Engineering Reports*

3 unit(s)

Regular technical writing assignments and company-focused oral presentations while integrating effects of environmental factors as they relate to products, systems and engineering processes. GE Area: R and Z.

*Lecture 3 hours/lab 3 hours.*

*Satisfies SJSU Studies Z+R: Written Communication II + Earth & Environment.*

**Prerequisite(s):** ENGL 1B or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: All Engineering, Aviation, Industrial Technology, Mathematics and Applied Mathematics. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

### *ENGR 101 - Engineering Seminar*

*1 unit(s)*

Seminars and guest lectures covering engineering-related career development, ethics, report writing, professionalism, finance, self-assessment and how to effectively function in a multidisciplinary environment. Repeatable course to be taken in consecutive semesters of the junior year of the BS General Engineering.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Upper Division Standing in General Engineering Program.

**Grading:** Graded

### *ENGR 102 - Renewable Energy Engineering*

*3 unit(s)*

Scientific and engineering concepts associated with energy and the environment. Overview of the physical concept of energy and the scientific thoughts and processes associated with energy. Primary sources of energy in use today. Study of conservation of energy, and how energy use has synergism with pollution and its global effects on sustainability.

**Prerequisite(s):** College level calculus, physics and chemistry.

**Grading:** Graded

### *ENGR 105 - Teacher Enhancement for Engineering*

*3 unit(s)*

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

### *ENGR 108 - Green Electronics*

*3 unit(s)*

Scientific principles underlying electronic and computer devices for non-engineers. Energy efficiency of consumer devices. Electricity consumption of the electronics students use in their daily lives. Social impacts of energy efficiency. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGR 119 - Energy and the Environment*

*3 unit(s)*

Introduces students to the sources of energy that fuel industrial civilization and the environmental impacts of energy extraction, distribution, and consumption. Explores a range of approaches to moving society toward a more sustainable energy future.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGR 120 - Programming Concepts for Behavioral and Social Science Applications*

*3 unit(s)*

This course covers the application of Python programming to the fields of behavioral and social sciences, as well as basic building blocks of computers and the Web. This course also covers how programming is used in various careers.

**Prerequisite(s):** STAT 95 or MATH 30 or MATH 30X or MATH 71 or MATH 71X.

**Grading:** Graded

*ENGR 121 - Data Structures and Algorithms for Behavioral and Social Science Applications*

*3 unit(s)*

Represent and analyze behavioral and social science data using Python and data structures such as classes, trees, and graphs; use related algorithms to solve behavioral and social science problems.

**Prerequisite(s):** ENGR 120 with C- or instructor consent

**Grading:** Graded

*ENGR 122 - Data Technology for Behavioral and Social Science Applications*

*3 unit(s)*

Use R programming language to collect, analyze, and present data sets from behavioral and social science applications.

**Prerequisite(s):** ENGR 120

**Grading:** Graded

*ENGR 157SL - Community Action/Community Service*

3 unit(s)

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGR 160SL - Engineering Projects in Community Service UD*

1 unit(s)

EPICS UD is a service-learning course where upper division engineering students work in multidisciplinary teams to undertake community-identified engineering projects. Students will gain insight into design and development processes and perform and report upon tasks consistent with their level of discipline expertise.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Engineering major; upper division standing

**Grading:** Graded

*ENGR 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics, by arrangement.

**Prerequisite(s):** Upper division standing and instructor consent. Allowed Declared Majors: Engineering. Not available to Open University Students.

**Grading:** Credit/No Credit

*ENGR 184 - Business Strategy in Practice in Technology Enterprise*

3 unit(s)

This course provides students with the practical tools and assessment for applying their business acumen. The first half introduces the students to standard business assessment tools that feed business strategies, such as marketing, business development and M & A. The second half of the course is comprised of developing the basic elements of a formal Business Plan and providing both comprehension and application levels of learning of business strategy.

**Prerequisite(s):** BUS 193 or ENGR 193 and BUS 181.

**Grading:** Graded

*ENGR 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ENGR 194 - Business Organization and Management of Technology Enterprise*

3 unit(s)

This course provides a "top down" overview of how commercial business works, including the business components: Corporate Environments, Human Resources, Legal, Marketing, Customer Insights, Management/Leadership. Communication and business soft skills will be covered providing a foundation for a solid business acumen. All class sessions focus on local and global perspectives.

**Prerequisite(s):** BUS 193 or ENGR 193.

**Grading:** Graded

*ENGR 195A - Global and Social Issues in Engineering*

1 unit(s)

Interdisciplinary seminar treating social and global impacts of technology and engineering. This integrated GE experience requires students to apply these concepts in their senior project classes. Students must enroll concurrently in their department senior project course Part A.

*Satisfies SJSU Studies S: Self, Society & Equality in US when taken as part of Engineering Major sequence.*

**Prerequisite(s):** ENGR 100W with a C or better. Engineering Majors only. Completion of Core General Education and upper division standing are prerequisites to all SJSU Studies courses.

**Corequisite(s):** Enrollment in major capstone course or equivalent.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with ENGR 195B and Engineering major specific sequence. Must be passed with a C or better to earn S and V

*ENGR 195B - Global and Social Issues in Engineering*

1 unit(s)

Second course in a two-course sequence to support the integration of General Education Area S and Area V into the engineering major. Case study approach to the relationship of engineering to social, ethical and cultural aspects of the broader community both in the U. S. and worldwide. GE Area: V when taken as part of Engineering Major Sequence.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

*Repeatable for credit.*

**Prerequisite(s):** ENGR 195A (with a grade of "C" or better). Engineering Majors Only. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Corequisite(s):** Enrollment in major capstone course or equivalent.

**Grading:** Graded

**Note(s):** To receive credit for GE Areas S and V, students must complete both ENGR 195A and ENGR 195B, each with a grade of C or better. They must also complete their senior project course sequence and earn a grade of C or better in each course. All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGR 195C - Interdisciplinary Senior Project I*

3 unit(s)

Interdisciplinary team senior design projects. Proposal preparation with feasibility plans and specifications; oral and written reports; professional seminars.

*Satisfies SJSU Studies S: Self, Society & Equality in US when taken as part of an engineering major sequence.*

**Prerequisite(s):** ENGR 100W; eligible for senior project course in major.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: ENGR 195D, ENGR 195A and ENGR 195B

*ENGR 195D - Interdisciplinary Senior Project II*

3 unit(s)

Construction, testing, and evaluation of the design from ENGR 195C culminating in demonstrations and written and oral presentations to faculty, industry mentors and peers.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding when taken as part of an engineering major sequence.*

**Prerequisite(s):** ENGR 195C with a grade of "C" or better.

**Grading:** Graded

**Note(s):** Meets GE Areas S and V when course is taken in combination with: ENGR 195C, ENGR 195A and ENGR 195B

*ENGR 195E - Interdisciplinary Computing Project*

3 unit(s)

Culminating project experience for students to apply computing knowledge and skills to solving problems or generating insights in their chosen area of study such as behavioral and social sciences.

**Prerequisite(s):** ENGR 120 or Instructor Consent

**Grading:** Graded

*ENGR 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ENGR 198 - Technology and Civilization*

3 unit(s)

History, development, and use of technology in different cultures. Technology's impact on society, global environment, the workplace, cultural values, gender roles, and newly industrialized countries of the world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*



**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGR 199A - Senior Design Project I*

*1 unit(s)*

First semester of year-long team project carried out under faculty supervision. Project proceeds from problem definition to analysis, design and validation, experimentation including possible construction and testing.

*Lab 3 hours.*

**Prerequisite(s):** ENGR 100W with a C or higher and Senior standing in BS General Engineering Program.

**Grading:** Graded

*ENGR 199B - Senior Design Project II*

*2 unit(s)*

Second semester of a two-semester team project carried out under faculty supervision. Project proceeds from problem definition to analysis, design and validation, experimentation including possible construction and testing.

*Lab 6 hours.*

**Prerequisite(s):** ENGR 199A with a grade of C or better.

**Grading:** Graded

*ENGR 200W - Engineering Reports and Graduate Research*

*3 unit(s)*

Graduate level technical writing workshop designed to develop advanced communication skills that will readily transfer to the engineer's professional needs, along with research methodologies, copyright issues, and proper documentation for the master's thesis project.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Graduate standing and completion of an undergraduate writing course.

**Grading:** AB-/NC Grading

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGR 201 - Engineering Analysis*

*3 unit(s)*

Mathematical techniques for solving engineering problems. Topics include linear systems analysis, probability and statistics, and differential equations. Applications include modeling and simulation, optimization, projection, experimental design. Several computer projects are required.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*ENGR 202 - Systems Engineering*

3 unit(s)

Large scale system design and development. Integrated approach including mission statement, synthesis of design concepts, tradeoff studies, risk assessment and interactions encountered in the optimal design, development, manufacture and test of systems.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGR 203 - Engineering Management*

3 unit(s)

Students will develop contemporary expertise in the principles of engineering finance, management, IP, operations management, performance metrics, and their application to design, development, and commercialization of new products and services in dynamic environments.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

*ENGR 206 - Renewable Energy Systems*

3 unit(s)

Advanced knowledge in renewable energy resources such as solar, wind, geothermal, biomass, waves and tidal energy. Solar resources and technologies, Integrated Resource Planning and System Operations, Enabling technologies and new energy use trends: Smart Grid, Demand Response, Energy Storage, and Electric Vehicles.

**Prerequisite(s):** Instructor consent

**Grading:** Graded

*ENGR 212 - Engineering Management in a Global Economy*

3 unit(s)

Application of engineering methodologies and practices to manage projects and organizations in a global digital economy. Topics include shifting from a manufacturing, production, marketing, and supply chain to a service economy, premium manufacturing, ethics, and competitive soft skills.

**Prerequisite(s):** ENGR 203 or Instructor Consent.

**Grading:** Graded

*ENGR 231 - Fundamentals of Facility Management*

3 unit(s)

Overview of facility managers's financial and business responsibilities. Principles of real estate and property management, facility operations, maintenance activities, and human resource management. Includes sustainable development, environmental management, and corporate social responsibility.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*ENGR 232 - Technology for Facility Management*

3 unit(s)

Overview of current and emerging facility management technologies and how and when to apply them. Includes facility management automation, transactional and human-centric processes, building automation and control systems, BIM technologies, and GIS analysis.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*ENGR 233 - Managing Facility Assets for Cost and Compliance*

3 unit(s)

Fundamental skills for assessing condition indices of assets in high-tech factories/laboratories, large office buildings, and other modern facilities; quantifying costs and financial impacts; and providing decision support for asset replacement or maintenance and for lease negotiation. Includes ISO 55000 standards for facility management.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*ENGR 234 - Facility Operations and Maintenance*

3 unit(s)

Fundamental skills and management and assessment tools for facility maintenance and operations. Includes predictive facility maintenance management, facility maintenance methods and strategies, analysis of service providers, and analysis of facility systems, equipment, and grounds.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** ENGR 231

**Grading:** Graded

*ENGR 236 - Design for Manufacturability*

3 unit(s)

Knowledge-based design, value engineering, DFM methodologies, robust design, process and materials selection, design constraints, design for assembly. Techniques of quality engineering, CAD/CAM integration and simultaneous engineering, cost estimating, activity-based costing, case studies, team projects.

**Prerequisite(s):** Principles of Design and Manufacturing Processes.

**Grading:** Graded

*ENGR 240 - Control Systems Design and Applications*

3 unit(s)

Introduction to control system analysis, feedback control theory, control law design and implementation. Topics include system modeling and identification, computer simulation, frequency domain and state space design

approaches, control law implementation, and commonly used sensors and actuators for control systems. CAD tools for control systems analysis, design and simulation are used throughout this course.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ENGR 261 - Battery Technologies I*

*3 unit(s)*

ENGR 261 teaches fundamentals of battery technologies. Concepts and understanding of electrochemical interactions, kinetics and thermodynamics in batteries will be covered. Basic concepts, material development and modeling of lithium-ion batteries will be discussed as well as understanding of flow batteries. Advanced and future technologies for next generation batteries will be introduced.

**Grading:** Graded

*ENGR 262 - Battery Technologies II*

*3 unit(s)*

This follow-up course will provide an in-depth look at batteries with a focus on cutting-edge research and development. Topics such as material synthesis techniques, science of electrode fabrication, advanced characterization techniques, battery life degradation mechanisms, design of battery electrodes, thermal management, and state-of-charge and state-of-health measurements will be covered.

**Grading:** Graded

*ENGR 263 - Battery Electrochemistry*

*3 unit(s)*

This course will cover the basics of electrochemistry, including thermodynamics, kinetics, mass transfer effects, reference electrodes, porous electrodes, dilute and concentrated solution theory, and electro-analytical methods, including voltammetry, coulometry and impedance spectroscopy.

**Grading:** Graded

*ENGR 264 - Battery Manufacturing*

*3 unit(s)*

Lectures will cover the manufacturing of Li-ion cells and battery packs in detail and the basic steps in manufacturing, equipment, cost considerations, and quality issues related to manufacturing.

**Grading:** Graded

*ENGR 265 - Battery Control Systems*

*3 unit(s)*

Learn how to design, analyze, and perform experiments for model and system validation work on battery control systems in electric vehicles, solar and/or wind renewable energy storage, and retrieval systems for the electric grid.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

*ENGR 271 - Passive Optical Sensing*

3 unit(s)

An introduction to passive optical sensing systems, including application areas, phenomenology and component/technology performance analysis. Detector types, principles, noise and sensor cooling issues will be addressed. Case studies and system analysis of complete passive optical sensing systems included.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ENGR 281 - Master's Project/Thesis Preparation Seminar*

1 unit(s)

Preparation for project or thesis research, including development of scope, assembly of committee, preparation of schedule, completion of literature survey, completion of introductory chapter for final report, and research proposal examination at the end of the course.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** Complete common and option core courses, a grade of "B" or better in ENGR 200W or any GS&R approved course that satisfies the Graduate Writing Competency Requirement and approved candidacy form on file.

**Grading:** Mandatory CR/NC/RP

*ENGR 282A - Engineering for Teachers: Introduction to Engineering Design*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282B - Engineering for Teachers: Principles of Engineering*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Communication, presentation skills and teamwork, visualization and sketching techniques, introduction to mechanical systems and mechanisms, basic thermodynamics, fluid control and hydraulic systems, control systems and feedback, robotics, engineering units, instruments, tools and measurements, statics, material properties and strength of materials

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282C - Engineering for Teachers: Digital Electronics*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in electronics engineering. Introduction to process and control of digital signals, design process for combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282D - Engineering for Teachers: Gateway to Technology Foundations*

3 unit(s)

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Introduction to mechanical and computer control systems, robotics and animation, and explorations of the importance of energy, including innovative ways to reduce, conserve and produce it using solar, thermal and wind power.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282E - Engineering for Teachers: Gateway to Technology Specializations*

3 unit(s)

A project-based curricular approach to the teaching of technology, designed to challenge and engage the natural curiosity and imagination of middle school students. Includes units on the impact of energy on our lives and the environment; the science behind aeronautics; design, build and test an airfoil; the science of electricity, behavior and parts of atoms, and sensing devices; knowledge and skills in basic circuitry design and examine the impact of electricity on our lives.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282F - Engineering for Teachers: Civil Engineering and Architecture*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. History of and careers in civil engineering and architecture including residential and commercial design, aesthetics and building safety codes.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282G - Engineering for Teachers: Aerospace Engineering*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education. Introduction to the study of relevant topics and concepts in aerospace engineering, including the history and physics of flight, flight navigation, aerospace design, materials and structures, propulsion, flight physiology, space travel and aerospace careers.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282H - Engineering for Teachers: Biotechnical Engineering*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include biotechnical history and industry,

impact of technology on human health and safety, forensics, biomedical, environmental and agricultural applications.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282J - Engineering for Teachers: Computer Integrated Manufacturing*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include history of manufacturing, control systems, design for manufacturability, cost estimating, and elements of automation.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 282K - Engineering for Teachers: Engineering Design and Development*

3 unit(s)

A thematic approach to the study of relevant topics and concepts in engineering. Development of inquiry-based, hands-on classroom activities in engineering education and careers. Topics include project management, research and development of problem solutions, prototyping and testing, project and process evaluation, documentation and presentation.

**Prerequisite(s):** Instructor consent

**Grading:** Mandatory CR/NC/RP

*ENGR 295A - Master Project I*

3 unit(s)

In-depth developmental engineering work relating to problems of interest to an individual or a group of students. Project includes proposal formulation, analysis, design, implementation, and testing.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Graduate Advisor consent. Not available to Open University students.

**Grading:** Mandatory CR/NC/RP

*ENGR 295B - Master Project II*

3 unit(s)

A continuation of ENGR 295A. Students complete the in-depth project, write a detailed project report and make a comprehensive presentation and demonstration of project.

**Prerequisite(s):** Admission to Candidacy of Master's Degree and CMPE 295A or CMPE 295W. Not available to Open University students.

**Grading:** Mandatory CR/NC/RP

*ENGR 297C - Special Topics in Systems Engineering*

3 unit(s)

Special seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on systems, process, product, and service integration in short-life cycle product and service industries using systems, concurrent

engineering, and cost of ownership principles.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ENGR 297D - Special Topics in Emerging Technologies*

*1-3 unit(s)*

Special topics in emerging technologies that emphasize new development in technologies, skills and knowledge which are suitable for the new technologies development such as but not limited to Machine Learning, Big Data Processing, Analytics, Data Analysis, and Information retrieval.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ENGR 297E - Special Topics in Electronic Materials and Devices*

*3 unit(s)*

Special Seminars and discussions to augment regularly-scheduled graduate courses. Emphasis on VLSI design computer-aided design, modeling, simulation and testing. Materials and processes includes characterizing and processing of electronic materials.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor's consent

**Grading:** Graded

*ENGR 297G - Battery Technology 1*

*3 unit(s)*

Basic and fundamentals about battery technologies. Cover the concepts and understanding of electrochemical, kinetics and thermodynamics in batteries. Discussion on basic concepts on material development and modeling of lithium-ion batteries as well as understanding of flow batteries. Introduction to advanced and future technologies for next generation batteries.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate standing or instructor's consent

**Grading:** Graded

*ENGR 297M - Special Topics in Engineering Management*

*3 unit(s)*

Special seminars and discussions to augment regularly-schedule graduate courses. Emphasis on engineering management fundamentals, product development and marketing, finance management, managing people and organizations and communication, planning, estimation, tracking metrics, risk analysis, e-business, project and change management.

**Prerequisite(s):** Graduate standing or instructor's consent

**Grading:** Graded

*ENGR 298 - Master's Project*



2 unit(s)

Completion of an in-depth project, a detailed project report, followed by a comprehensive presentation and demonstration of project.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** ENGR 281, satisfaction of English Proficiency requirement, advancement to candidacy.

**Grading:** Mandatory CR/NC/RP

*ENGR 298I - MSE Internship*

1-3 unit(s)

Student will be employed in an industry as an intern, working in an engineering area to their MSE option. This course supplements and supports the student's program of study.

**Prerequisite(s):** Students must have graduate standing.

**Grading:** Mandatory CR/NC/RP

*ENGR 299 - Master's Thesis*

1-6 unit(s)

Master's thesis work in engineering.

*Misc/Lab: Lab 9 hours.*

**Prerequisite(s):** Admission to candidacy for master's degree; written contract with thesis advisor and graduate coordinator.

**Grading:** Mandatory CR/NC/RP

*ENGR 1081W - Basic Writing Workshop*

1 unit(s)

Weekly writing to improve grammar and punctuation skills needed for student success. Repeatable for up to 6 units.

*Misc/Lab: Activity 3 hours.*

*Course may be repeated for credit for up to 6 units.*

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*ENGR 1290R - Culminating Experience Supervision*

1 unit(s)

This course covers the same topics and has the same objectives as ENGR 298/ENGR 299.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Student must have been enrolled in ENGR 298 or ENGR 299 in a previous semester.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

# Department of Industrial and Systems Engineering

**Office:** Engineering Building 485

**Telephone:** 408-924-3301 (Voice); 408-924-4040 (Fax)

**Email:** [industrialsystems-dept@sjsu.edu](mailto:industrialsystems-dept@sjsu.edu)

**Website:** [www.sjsu.edu/ise](http://www.sjsu.edu/ise)

## Professors

Yasser M. Dessouky, Chair (Industrial and Systems Engineering)

John McClusky (Human Factors/Ergonomics)

Sean Laraway (Human Factors/Ergonomics)

Niranjani Patel (Industrial and Systems Engineering)

H.S. Jacob Tsao (Industrial and Systems Engineering)

Emily H. Wughalter (Human Factors/Ergonomics)

## Associate Professors

Cary Feria (Human Factors/Ergonomics)

Anil Kumar, Human Factors/Ergonomics Director (Industrial and Systems Engineering; Human Factors/Ergonomics)

Evan Palmer (Human Factors/Ergonomics)

David Schuster (Human Factors/Ergonomics)

## Assistant Professors

Ayca Erdogan (Industrial and Systems Engineering)

Hongrui Liu (Industrial and Systems Engineering)

Dan Nathan-Roberts (Industrial and Systems Engineering; Human Factors/Ergonomics)

## Industrial and Systems Engineering Overview

Industrial and Systems Engineers figure out how to do things better by engineering processes and systems that improve quality and productivity. ISEs make significant contributions to their employers by saving money, increasing productivity, and making the workplace better for workers. Industrial and Systems Engineers focus on productivity improvement with respect for the human aspect of work. ISE bridges the gap between management and operations by applying six sigma principles, lean manufacturing processes, principles of organizational improvement, continuous improvement, and ergonomics. The undergraduate degree prepares engineers for challenges in manufacturing or service systems analysis and design. Students in our master's program build on an aptitude already in evidence for advanced professional work in industrial engineering. Our alumni are employed in a variety of industries, businesses and institutions, from retail establishments to manufacturing plants to government agencies to hospitals. The BS, Industrial and Systems Engineering program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org)

## Undergraduate

### Industrial and Systems Engineering, BS

- Department of Industrial and Systems Engineering
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 24

Major Preparation 29

Major Requirements 67

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All Technical Electives Required in the Major must be completed with a "C- or better". The following courses in Preparation for the Major must also be completed with a "C- or better": ENGL 1B.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (24 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 *unit(s)* (M4)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (29 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33LA - Differential Equations and Linear Algebra 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

## Major Requirements (67 units)

*At least two approved technical electives must be engineering courses and all technical electives must be completed with a grade of "C-" or better.*

## Core Courses (11 units)

- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- ME 20 - Design and Graphics 2 *unit(s)*
- MATE 25 - Introduction to Materials 3 *unit(s)*
- CMPE 30 - Programming Concepts and Methodology 3 *unit(s)*

## Concentration Requirements (50 units)

- ISE 102 - Engineering Economic Systems 3 *unit(s)*
- ISE 105 - Introduction to Systems Engineering and Activity Costing 3 *unit(s)*
- ISE 115 - Lean Integrated Manufacturing 3 *unit(s)*
- ISE 120 - Work Methods Design and Measurement 3 *unit(s)*
- ISE 130 - Engineering Probability and Statistics 3 *unit(s)*
- ISE 131 - Statistical Process Control and Improvement 3 *unit(s)*
- ISE 135 - Design of Experiments 3 *unit(s)*

- ISE 140 - Operations Planning and Control 3 *unit(s)*
- ISE 142 - Service Systems Engineering and Management 3 *unit(s)*
- ISE 151 - Introduction to Engineering Management 3 *unit(s)*
- ISE 155 - Supply Chain Engineering 3 *unit(s)*
- ISE 167 - System Simulation 3 *unit(s)*
- ISE 170 - Operation Research 3 *unit(s)*
- ISE 194 - Analytics Workshop 1 *unit(s)*
- ISE 195A - Senior Industrial Engineering Design I 1 *unit(s)*
- ISE 195B - Senior Industrial Engineering Design II 3 *unit(s)*
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- CMPE 131 - Software Engineering I 3 *unit(s)*

## Approved Technical Electives (6 units)

Selected from the approved departmental list in consultation with the student's advisor.

## Total Units Required (120 units)

# Master

## Engineering Management, MS

Engineering Management, offered by the Department of Industrial and Systems Engineering, is a specialized form of management that is concerned with the application of engineering principles to business practice. Engineering management is a career that brings together the technological problem-solving savvy of engineering and the organizational, administrative, and planning abilities of management in order to oversee complex enterprises from conception to completion.

Engineering Management programs typically include instruction in the areas of accounting, economics, project management, finance, systems engineering, mathematical modeling and optimization, quality control and six sigma, operations research, human resource management, industrial psychology, safety, and health. At SJSU, the engineering management program emphasizes quality and six sigma, statistics, fundamentals of business accounting and finance, engineering economic analysis, business ethics, supply chain engineering, and systems engineering. Through technical electives, students become knowledgeable in other aspects of business management, such as project management, human resource management, and operations research.

Additional information can be found at [www.sjsu.edu/ise/programs/ms-em](http://www.sjsu.edu/ise/programs/ms-em).

# University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Engineering Management program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

Applicants must meet all university admission requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. In addition, applicants must possess a baccalaureate degree from an ABET-accredited engineering program with a grade point average of at least 3.0 in the last 60 semester hours of upper-division work completed in all subjects and in technical subjects only. Students meeting these criteria may be admitted in classified standing; however, students may still be admitted conditionally if they need prerequisite courses for the selected option. An engineering technology degree does not satisfy the degree requirement for admission to this program.

## Requirements for Admission to Conditionally Classified Standing

Applicants who do not meet the requirements for classified standing may be admitted with specific conditions as conditionally classified. An applicant whose undergraduate record indicates deficiencies in one or more technical areas and/or has a grade point average less than 3.0 in the last 60 semester hours of upper-division work completed in all subjects and in technical subjects only may be admitted for graduate work on a conditionally classified basis. Such students will be expected to satisfactorily complete additional course work before becoming classified. Any conditions stated in the admission notification must be fulfilled within the first year and before the student can be admitted to candidacy for the degree.

Students admitted in conditionally classified status may petition for classified status when course work in deficient areas has been completed, when they have satisfied the Graduation Writing Assessment Requirement (GWAR), and when their records in classes at San José State University show sufficient promise of success in the master's degree program.

## Requirements for Admission to Candidacy for the MS - Engineering Management

Students seeking the Master of Science in Engineering Management degree must meet the general university requirements for advancement to candidacy as outlined in the Academic Requirements section of The University Bulletin, including successful completion of the GWAR. Admission to candidacy and approval of the degree program will be handled by the Graduate Advisor. All classified graduate students must apply for admission to candidacy after completing the GWAR and a minimum of nine units of graduate work. All MS EM students are encouraged to apply for advancement to candidacy as soon as they have completed the GWAR and three graduate courses.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students choose the Plan A (Thesis) or Plan B (Project) option as their program culminating experience. The decision as to whether to embark on a thesis or project will be made by the student in consultation with the program's assigned advisor.

### Plan A (Thesis)

Students wishing to pursue the thesis option must begin by obtaining the approval of the MS, Engineering Management (MS EM) program director, and then secure the agreement of a qualified faculty member to serve as Chair of the thesis committee. The candidate must provide the name of the committee Chair to the MS EM Program Director prior to the beginning work on the thesis. The thesis and thesis process must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The thesis will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (Project)

The project is the expected choice for the MS, Engineering Management candidate's culminating experience. Students must begin the project by identifying a qualified faculty advisor, or by having one appointed by the MS EM program director. The advisor and the student mutually agree on the scope of the project. The advisor determines when the student has met agreed-upon project requirements and when the project report is acceptable for submission to the MS EM program and notifies the MS EM program director of the student's satisfactory completion of the culminating experience requirement.

## Masters Requirements (30 units)

### Core Courses (15 units)

- ISE 200 - Financial Methods for Engineers 3 *unit(s)*
- ISE 213 - Principles of Engineering Management 3 *unit(s)*
- ISE 222 - Adv Sys Engr 3 *unit(s)*
- ISE 250 - Leading the Six Sigma Improvement Project 3 *unit(s)*
- ISE 251 - Managing the Lean Enterprise Improvement Program 3 *unit(s)* (GWAR)

### Approved Electives (12 units)

Twelve units of electives selected in consultation with graduate advisor. Students take two and no more than three BUS electives (6 to 9 units).

### Culminating Experience (3 units)

#### Complete One Course From:

#### Plan A (Thesis)

- ISE 299 - Master's Thesis *1-4 unit(s) (3 units required)*

### Plan B (Project)

- ISE 298 - Special Problems *1-4 unit(s) (3 units required)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Human Factors/Ergonomics, MS

The Department of Industrial and Systems Engineering administers the Master of Science in Human Factors/Ergonomics (HF/E) degree program. This is a cooperative program involving the Departments of Industrial and Systems Engineering, Psychology, Industrial Design, and Kinesiology.

Human factors/ergonomics is the discipline concerned with the development and application of human-system interface technology to systems analysis, design, and evaluation. This technology encompasses human-machine (hardware ergonomics), human-task (workplace ergonomics), human-environment (environmental ergonomics), human-software (cognitive ergonomics) and organizational-machine (macro-ergonomics) interfaces. Practitioners are engaged in developing design specifications, guidelines, methods, and tools. They also apply human-system interface technology to ensure that work systems are compatible with the characteristics of the humans who operate, maintain, or otherwise interact with them. Their efforts include improving the operability, maintainability, usability, comfort, safety and health characteristics of systems to improve human and system effectiveness and to reproduce the potential of injury and error (adapted from remarks published by H. Holbrook, 1995-96 President, Human Factors and Ergonomics Society, HFES Bulletin, January 1996).

This program prepares students for practice in this emerging profession through an interdisciplinary course sequence that emphasizes theory, practical applications, and research. HF/E students take a group of five core courses from several different SJSU departments and elective courses in topics of their choosing. A one-semester weekly seminar is required of all students. The program culminates in a thesis or project.

Additional information can be found at [www.sjsu.edu/hfe](http://www.sjsu.edu/hfe).

## Admission Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Human Factors/Ergonomics program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.



Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## **Requirements for Admission to Classified Standing**

Applicants must meet all university admission requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. Applicants for classified standing must have completed a BS or BA degree in Psychology, Industrial Engineering, Occupational Therapy, Industrial Design, Kinesiology, or other related fields at an accredited institution. A grade point average of 3.0 ("B") or better in the last two years of academic work is preferred. Applicants for classified standing will also be expected to have completed upper-division courses in statistics, cognition, and perception.

## **Requirements for Admission to Conditionally Classified Standing**

Applicants who do not meet the requirements for classified standing may be admitted with specific conditions as conditionally classified; any conditions stated in the admission notification must be fulfilled within the first year and before the student can be admitted to candidacy for the degree. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by a process known as Administrative Academic Disqualification (see Section 41300.1, Title 5, California Code of Regulations).

## **Requirements for Admission to Candidacy for the MS - Human Factors/Ergonomics**

Students seeking the Master of Science degree in Human Factors/Ergonomics must meet the general all-university requirements for candidacy as outlined in the Academic Requirements section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the applicant must demonstrate an aptitude for advanced professional work in human factors/ergonomics, as measured by instructor appraisals, analysis of previous academic work, or other appropriate means. Admission to candidacy and approval of programs will be handled by the student's graduate advisor.

## **Requirements for Graduation**

### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

The decision as to whether to embark on the project (Option B) or Thesis (Option A) path for the culminating experience will be made by the student in consultation with the program's assigned advisor.

### Plan A (Thesis)

Students wishing to pursue the thesis option must begin by obtaining the approval of the HF/E program Director and then by securing the agreement of a qualified faculty member to serve as Chair of the candidate's thesis committee. The name of the committee Chair must be provided to the HF/E program Director prior to the candidate beginning work on the thesis. The thesis and thesis process must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (Project)

The project is the expected choice for the HF/E candidate's culminating experience. Students must begin the project by identifying a qualified faculty advisor, or one will be appointed by the HF/E program Director. The advisor and the student mutually agree on the project's scope. The advisor determines when the student has met the agreed-upon project requirements and when the project report is acceptable for submittal to the HF/E program, and notifies the HF/E program Director of the student's satisfactory completion of the requirement.

Three (3) elective courses must be planned in consultation with the Graduate Advisor. Electives may be selected from a wide range of graduate courses offered on the SJSU campus in industrial engineering, psychology, kinesiology, and other departments. Course descriptions can be found under the listings for the respective departments elsewhere in this catalog. The program develops and offers its own elective courses from time to time in topics such as usability testing, human-computer interaction, safety, and others. Please see the program website for further details.

## Course Requirements

Students must maintain a GPA of 3.0 or above in all courses taken in fulfilling prerequisites and the 30 graduate units required for completion of the program. The general requirements for the course completion are as follows:

### Master's Requirements (30 units)

#### Core Courses (17 units)

- ISE 210 - Human Factors/Ergonomics 3 *unit(s)*
- ISE 212 - Human Factors Experiments 3 *unit(s)* (GWAR)
- ISE 290 - Human Factors & Ergonomics Professional Seminar 2 *unit(s)*
- KIN 266 - Principles and Concepts of Perceptual Motor Learning 3 *unit(s)*
- PSYC 273 - Seminar in Human Factors 3 *unit(s)*

## Complete One Course From:

- ISE 135 - Design of Experiments 3 *unit(s)*
- ISE 202 - Design and Analysis of Engineering Experiments 3 *unit(s)*
- ISE 211 - Experiment Design for Human Factors Engr 3 *unit(s)*

## Approved Electives (9 units)

*Elective courses must be planned in consultation with the graduate advisor*

## Culminating Experience (4 units)

Plan A (Thesis) or Plan B (Project)

Complete four units from:

- ISE 298 - Special Problems 1-4 *unit(s)*
- PSYC 298 - Special Problems 1-6 *unit(s)*
- KIN 298 - Special Studies 3 *unit(s)*
- ISE 299 - Master's Thesis 1-4 *unit(s)*
- PSYC 299 - Master's Thesis or Project 1-6 *unit(s)*
- KIN 299 - Master's Thesis or Project 1-6 *unit(s)*

## Total Units Required (30 units)

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

# Industrial and Systems Engineering, MS

The goal of Industrial and Systems Engineering is to ensure that manufacturing or service organization systems are efficient, productive, safe, and well designed against cumulative injury, and that the systems incorporate the right tools and equipment. The Master of Science in Industrial and Systems Engineering curriculum, offered by the Department of Industrial and Systems Engineering, prepares engineers for these activities and helps achieve the goals of ISE in a manufacturing or service organization. It prepares students to bridge the gap between operations and management with courses ranging from operations planning and control, quality assurance and reliability, human factors and ergonomics, human-machine interaction, information engineering, and cost-effectiveness analysis, to organizational development and total quality management. It prepares students to enter the profession immediately or to enter a PhD program.

# Requirements for Admission to Classified Standing

Applicants must meet all university admission requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the ISE Department. Students may be admitted in either classified or conditionally classified standing. Applicants for classified standing will ordinarily be expected to have

completed work for the BS degree in industrial engineering (or its equivalent) at San José State University or another university with an accredited curriculum, with a grade point average of 3.0 ("B") or better in the last 60 units.

## Requirements for Admission to Conditionally Classified Standing

Applicants who do not have a baccalaureate degree in industrial engineering (or equivalent), but who meet university requirements for graduate admission and whose academic records or professional achievements give promise of satisfactory performance in graduate study in industrial engineering, may be admitted to Conditionally Classified standing. Applicants whose baccalaureate degrees are not in industrial engineering will be required to take additional courses (prerequisites), which will not be counted in the graduate degree program for the MS - Industrial and Systems Engineering. The GRE General Test is not required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Admission to Candidacy

Students seeking MS degrees in the College of Engineering must meet the general university requirements for candidacy as outlined in the Academic Requirements section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the candidate must demonstrate an aptitude for advanced professional work in industrial engineering, as measured by instructor appraisals, analysis of previous academic work or other appropriate means. Admission to candidacy and approval of programs will be handled by a faculty committee and the student's advisor.

## Requirements for Graduation

### Completing Requirements for the MS - Industrial and Systems Engineering

Students who have been admitted to candidacy for master's degrees in engineering must thereafter maintain grade-point averages of 3.0 ("B") or better in all work taken in the graduate program, and in the minimum 30 semester units of approved graduate work. All students are required to complete a thesis, project, or pass a comprehensive examination covering either their graduate course work or major project. The general requirements for the MS - Industrial and Systems Engineering include completion of at least 30 semester hours of approved work. The course requirements consist of three core courses, four courses in a specialty area, one elective, and a culminating experience (thesis, project or comprehensive exam). Four specialty areas are offered: Production and Quality Assurance, Human Factors Engineering, Healthcare and Service Systems Engineering, and Supply Chain and Logistics Engineering.

### Culminating Experience

**Plan A (Thesis)**

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee, which consists of the chair and two other faculty members of the Department, College or University.

**Plan B (Project)**

The main purpose and hence the main scope of the MS project is to apply knowledge learned in a student's graduate study to a real-world problem, either identified in a current industrial or business setting as a need for improvement or in an academic setting in anticipation of opportunities for potential improvement. In either case, the amount of work must at least be commensurate with a three-unit graduate lecture course. Although creating new knowledge is not expected in the project, most effective application of the knowledge learned in the student's entire graduate program is.

The MS project should be an individual project. With special approval by the Graduate Advisor, a project whose scope is too large for one student can be pursued as a set of multiple MS projects. However, the scope of work for each student must be clearly defined and separated with respect to that of the other student(s). At the end of the MS Project, each student must complete and submit an individual project report and must give an individual presentation. The student earns credit (i.e., CR) for the MS Project if and only if the project has been successfully completed and the project report and the project presentation have been satisfactorily delivered. It will be written under the guidance of the candidate's project committee advisor, with the assistance of the thesis committee, which consists of the chair and another faculty member of the Department, College or University.

**Plan B (Comprehensive Exam)**

The Comprehensive Exam is a five-hour exam covering three core courses and two elective courses. It is an open-book and open-notes exam. Students in this option take a third elective course (amounting to a total of 9 units of approved electives).

**Master's Requirements (30 units)****Graduation Writing Assessment Requirement (GWAR) (3 units)**

Successful completion of the following courses satisfies GWAR, which is required for advancement to candidacy.

There are other ways to satisfy GWAR, but they require the addition of an elective selected in consultation with the graduate advisor. For information on Graduation Writing Assessment Requirement (GWAR).

- ISE 202 - Design and Analysis of Engineering Experiments 3 *unit(s)*
- ISE 212 - Human Factors Experiments 3 *unit(s)*
- ISE 251 - Managing the Lean Enterprise Improvement Program 3 *unit(s)*
- ISE 270 - Information Engineering 3 *unit(s)*

**Core ISE Courses (9 units)**

- ISE 230 - Advanced Operations Research 3 *unit(s)*
- ISE 235 - Quality Assurance and Reliability 3 *unit(s)*
- ISE 240 - Analytics for Systems Engineering 3 *unit(s)*

**Courses in an ISE Specialty Area (12 units)**

Four Courses from one of the following four specialty areas:

1. production and quality assurance,
2. human factors engineering,
3. supply chain and logistics engineering, or
4. healthcare and service systems engineering

## Approved Electives (3 units)

Courses selected from other ISE specialty areas or approved by the graduate advisor.

## Culminating Experience (3 units)

Complete one option (Plan A Thesis, Plan B Project, or Plan B Comprehensive Exam):

### Plan A (Thesis)

- ISE 299 - Master's Thesis *1-4 unit(s) (3 units required)*

### Plan B (Project)

- ISE 298 - Special Problems *1-4 unit(s) (3 units required)*

### Plan B (Comprehensive Exam)

- Five-hour exam covering three core courses and two elective courses. Students in this option take a third elective course (a total of 9 units approved electives)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Six Sigma Black Belt Certificate (Graduate)

The revolutions in lean manufacturing and quality have swept the world and broadened into the disciplines of lean enterprise and six sigma. Six Sigma's emphasis is on improving existing capabilities. Six Sigma is a set of structured methodologies, problem-solving tools and advanced statistical methods for analyzing and improving processes, product designs and services on a broad range of metrics, especially cost, quality, time and variability. It moves beyond treating symptoms and short-term problems to the elimination of root causes, thereby emphasizing lasting improvement.

This certificate is available to ISE graduate students and local professionals

### **Major-Specific Graduation Requirements**

All courses in the Certificate must be successfully completed with a grade of "B or better", and students must pass an exit exam.

## **Certificate Requirements (12 units)**

- ISE 202 - Design and Analysis of Engineering Experiments 3 *unit(s)*
- ISE 235 - Quality Assurance and Reliability 3 *unit(s)*
- ISE 250 - Leading the Six Sigma Improvement Project 3 *unit(s)*
- ISE 251 - Managing the Lean Enterprise Improvement Program 3 *unit(s)* (GWAR)

## **Total Units Required (12 units)**

## **Six Sigma Green Belt Certificate (Graduate)**

The revolutions in lean manufacturing and quality have swept the world and broadened into the disciplines of lean enterprise and six sigma. Six Sigma's emphasis is on improving existing capabilities. Six Sigma is a set of structured methodologies, problem-solving tools and advanced statistical methods for analyzing and improving processes, product designs and services on a broad range of metrics, especially cost, quality, time and variability. It moves beyond treating symptoms and short-term problems to the elimination of root causes, thereby emphasizing lasting improvement.

This certificate is available to ISE graduate students and local professionals

### **Major-Specific Graduation Requirements**

The following course in the minor requires a grade of "B or better": ISE 250

## **Certificate Requirements (3 units)**

- ISE 250 - Leading the Six Sigma Improvement Project 3 *unit(s)*

## **Total Units Required (3 units)**

## **Minor**

## **Engineering Management Minor**

### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## **Minor Requirements (12 units)**

## Required Courses (6 units)

- ISE 102 - Engineering Economic Systems 3 *unit(s)*
- ISE 151 - Introduction to Engineering Management 3 *unit(s)*

## Additional Requirements (6 units)

Complete two courses from:

- ISE 105 - Introduction to Systems Engineering and Activity Costing 3 *unit(s)*
- ISE 142 - Service Systems Engineering and Management 3 *unit(s)*
- ISE 155 - Supply Chain Engineering 3 *unit(s)*

## Total Units Required (12 units)

# Statistical Quality Engineering Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Major-Specific Graduation Requirements

All courses in this minor require a grade of "C- or better".

## Minor Requirements (12 units)

### Required Courses (9 units)

- ISE 131 - Statistical Process Control and Improvement 3 *unit(s)*
- ISE 135 - Design of Experiments 3 *unit(s)*

### Complete One Course From:

- ISE 130 - Engineering Probability and Statistics 3 *unit(s)*
- ISE 162 - Engineering Statistics and Analysis 2 *unit(s)*
- MATH 161A - Applied Probability and Statistics I 3 *unit(s)*

### Additional Requirements (3 units)

Complete one course from:

- ISE 102 - Engineering Economic Systems 3 *unit(s)*
- ISE 151 - Introduction to Engineering Management 3 *unit(s)*

## Total Units Required (12 units)



*ISE 102 - Engineering Economic Systems*

3 unit(s)

Systems analysis applied to economic decisions in engineering; comparison of alternatives based on cost breakdown structure and time value of money; system life-cycle process; life-cycle economic concepts, costing methodology and applications.

**Corequisite(s):** MATH 31 or MATH 31X, and ENGR 10. Or equivalents.

**Grading:** Graded

*ISE 103 - Life Cycle Engineering*

3 unit(s)

Life cycle analysis of products focused on the contexts of reducing energy and the carbon footprint. Methods to analyze and evaluate the environmental impacts of engineering activities. Interdisciplinary case studies and projects related to life cycle engineering.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ISE 105 - Introduction to Systems Engineering and Activity Costing*

3 unit(s)

Techniques for integrating engineering problem solving methods with systems theory including principles of problem identification, description, modeling, solution and implementation; applying traditional and activity based cost systems to assist engineers in decision making process through the product life cycle.

**Prerequisite(s):** MATH 31 or MATH 31X. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*ISE 110 - Manufacturing Processes*

3 unit(s)

Fundamentals of manufacturing processes such as machining, forming, casting, molding and welding. Surface treatments, powder-based processes, and microfabrication methods. Materials behavior and selection for manufacturing. Geometric dimensions and tolerancing.

**Prerequisite(s):** ME 20 with a grade of "C-" or better.

**Pre/Corequisite(s):** MATE 25.

**Grading:** Graded

*ISE 112 - Occupational Health Engineering*

3 unit(s)

Legislative framework and historical perspective of work-related injuries and diseases: prevention assessments, legal and regulatory issues surrounding solutions to occupational health problems, principles of industrial hygiene and program management.

**Prerequisite(s):** Junior standing in engineering.

**Grading:** Graded

*ISE 114 - Safety Engineering*

3 unit(s)

Hazards, accident prevention and engineering approaches to the design of equipment, facilities and processes. Provides familiarity with system safety, system evaluation and evaluation of alternative countermeasures. Latest safety regulations and agencies responsible for their enforcement.

**Prerequisite(s):** Junior standing.

**Grading:** Graded

*ISE 115 - Lean Integrated Manufacturing*

3 unit(s)

Analyze, design and integrate manufacturing processes including application of Group Technology, CAM, automated material handling, and flexible automation within lean manufacturing environment. Manage automation in support of a lean enterprise improvement program based upon the Toyota Production System paradigm.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** ISE 120, CMPE 30 or equivalent, Engineering majors only.

**Grading:** Graded

*ISE 120 - Work Methods Design and Measurement*

3 unit(s)

Design of efficient and effective work processes; includes process management, methods analysis and improvement and work measurement.

*Misc/Lab: Lecture 2 hours/Lab 3*

**Prerequisite(s):** MATH 32. Allowed Declared Majors: Any Engineering.

**Corequisite(s):** ISE 130.

**Grading:** Graded

*ISE 130 - Engineering Probability and Statistics*

3 unit(s)

Probability theory, graphical displays of data, graphical methods of comparisons of samples and hypotheses testing. Statistical estimation and inference. Uses graphical statistical packages.

**Prerequisite(s):** MATH 32 or MATH 32X or MATH 71 or MATH 71X. Allowed Declared Majors: Any Engineering and graduate students

**Grading:** Graded

*ISE 131 - Statistical Process Control and Improvement*

3 unit(s)

Statistical computations, sampling procedures, development and use of control charts and utilization of computerized statistical packages. Design of statistical quality control systems. The seven tools of quality; process capability studies.

**Prerequisite(s):** ISE 130 (with a grade "C-" or better) or equivalent. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*ISE 135 - Design of Experiments*

3 unit(s)

Tests of composite hypotheses, analysis of variance, statistical decision theory, sampling procedures, design and implementation of statistical process control systems, response surface experimental design, Taguchi experimental design, system reliability, utilization of computerized statistical packages.

**Prerequisite(s):** ISE 130 (with grade of "C-" or better) or equivalent. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*ISE 140 - Operations Planning and Control*

3 unit(s)

Design, implementation and evaluation of manufacturing, planning and control systems. Includes MRP II, ERP, JIT.

**Prerequisite(s):** ISE 102, ISE 120. Allowed Declared Majors: Any Engineering and graduate students.

**Grading:** Graded

*ISE 142 - Service Systems Engineering and Management*

3 unit(s)

Operational productivity, operational quality strategy and information technology applications in the service sector through the use of tools, techniques and case studies. Contrasts manufacturing and service sector issues related to supply chain, process quality, information systems and other topics.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ISE 151 - Introduction to Engineering Management*

3 unit(s)

Broad overview of engineering management theory and practice including: management's roles, responsibilities, skills, strategy and planning; management systems, human resource management, problem solving and decision-making; engineering ethics.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*ISE 155 - Supply Chain Engineering*

3 unit(s)

A comprehensive coverage of supply chain topics; real world applications including logistics, inventory management, risk pooling, value of information, strategic alliance, procurement and outsourcing strategies, information technology, coordinated product and supply chain design, customer value, decision, support systems.

**Prerequisite(s):** ISE 140.

**Grading:** Graded

*ISE 160 - Healthcare Delivery Systems*

3 unit(s)

Overview and analysis of health care delivery systems in the US with emphasis on the assessment, analysis, and

improvement of operational quality, efficiency, and effectiveness. Impact on primary components of health care systems: facilities, approaches to care and treatment modalities, and personnel. Quantitative and qualitative techniques and applications to improve health care systems; performance measures used to evaluate access and quality of care. Impact of healthcare policies, laws, economics, and current US health care culture on organizational performance and patient outcomes.

**Prerequisite(s):** Junior Standing

**Grading:** Graded

*ISE 161 - Medical Errors Reduction and Patients Safety Engineering*

*3 unit(s)*

Standardization of national reporting of medical errors; patient safety and high risks processes performance analysis; Safety improvements utilizing human factors techniques; information technology applications to reduce medication errors and improve patient safety; structured teams and systems to reduce clinical errors.

**Prerequisite(s):** Junior Standing

**Grading:** Graded

*ISE 162 - Engineering Statistics and Analysis*

*2 unit(s)*

Topics will include error analysis, probability, statistics including hypothesis testing, confidence limits and control variables, design of experiments and statistical process control as they are utilized in the chemical, materials and process engineering industries.

*Lecture 1 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 33A

**Grading:** Graded

*ISE 163 - Healthcare Information Systems*

*3 unit(s)*

Current and emerging use of clinical information, electronic medical records and clinical information systems. Healthcare enterprise architecture. Pre-built automation models of unified patients records. Automated decision support. Integrated interfaces, interoperable record exchange, and meta knowledge integration. Security of healthcare information.

**Prerequisite(s):** Junior Standing

**Grading:** Graded

*ISE 164 - Computer and Human Interaction*

*3 unit(s)*

Introduction to human/computer interaction, paradigms for interaction, human performance capabilities, computer input/output device analysis and design, pattern recognition 3D audio, 3D visualization, application to virtual reality and multimedia.

**Prerequisite(s):** Junior standing.

**Grading:** Graded

*ISE 166 - Healthcare Financial Engineering Management*

3 unit(s)

Healthcare activity costing and life-cycle, methodologies of modeling financial decisions, dynamic pricing techniques, and integrated financial analysis that spans clinical, access, and revenue functions. Financial risks assessment using statistical and stochastic methods as applied to pricing of alternative providers' settings.

**Prerequisite(s):** Junior Standing

**Grading:** Graded

*ISE 167 - System Simulation*

3 unit(s)

Introduction to simulation. Monte Carlo techniques. Design and use of discrete-event computer simulation modeling techniques; theoretical and practical treatment of input to models; model validation methods and output analysis. Synchronized sampling, model comparisons.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CMPE 30 or equivalent; ISE 130 (with grade of "C-" or better). Allowed Declared Majors: Any Engineering and graduate students.

**Grading:** Graded

*ISE 170 - Operation Research*

3 unit(s)

Development and application of mathematical models to industrial problems. Linear programming, network analysis, Markov models, game theory, queuing theory and decision analysis.

**Prerequisite(s):** ISE 130 (with grade of "C-" or better). Allowed Declared Majors: Any Engineering.

**Pre/Corequisite(s):** MATH 33LA.

**Grading:** Graded

*ISE 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*ISE 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ISE 194 - Analytics Workshop*

1 unit(s)

Application of common analytics programming languages to problems in industrial engineering.

**Prerequisite(s):** CMPE 30, ISE 135, and Senior Standing.

**Grading:** Credit/No Credit

*ISE 195A - Senior Industrial Engineering Design I*

1 unit(s)

Individual or group design projects. Proposal preparation with plans and specifications. Oral and written reports. Professional seminars. global and social issues in engineering.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** ISE 105, ISE 120, ENGR 100W, major form on file and good standing in the major.

**Grading:** Graded

*ISE 195B - Senior Industrial Engineering Design II*

3 unit(s)

Design of industrial system: Quality function deployment, technology trends, financial analysis, functional specifications, process design, production capability, quality management, manufacturing resource planning, equipment requirements, human resource management, MIS, facility design, and project management. Integrated global and social issues in engineering.

*Misc/Lab: Lab 9 hours.*

**Prerequisite(s):** ISE 140 and ISE 195A (with grade of "C" or better). ISE majors only.

**Grading:** Graded

*ISE 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ISE 200 - Financial Methods for Engineers*

3 unit(s)

Systematic approach and methods for engineering decision making where economic outcomes are principal criteria. Accounting analysis and decision making topics that aid in understanding the relationships between various functional areas of business and the decision making processes of engineering managers.

**Grading:** Graded

*ISE 201 - Math Foundations for Decision and Data Sciences*

3 unit(s)

Linear algebra and matrix operations in statistics, optimization and artificial intelligence. Statistical concepts and techniques important for decision and data sciences, with motivation by real-world examples. Basic optimization techniques useful for statistics, classification and neural networks.

**Prerequisite(s):** Graduate Standing in Engineering.

**Grading:** Graded

*ISE 202 - Design and Analysis of Engineering Experiments*

*3 unit(s)*

Review of statistical inference and tests of hypotheses. Introduction to analysis of variance and covariance. Theory and applications of experimental designs for engineering problems. Random and systematic designs. Randomized blocks. Latin squares. Factorial and fractional factorial designs. Taguchi methods.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** ISE 130.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ISE 203 - Agile Systems Engineering*

*3 unit(s)*

Exploration of Lean, Agile, Scrum, Kanban, Large-Scale Scrum, and Scaled Agile Frameworks. Real examples leverage the immersion understanding of Agile. Students acquire Agile knowledge and skills that can be applied to any type of project in any industry.

**Prerequisite(s):** ISE 213

**Grading:** Graded

*ISE 210 - Human Factors/Ergonomics*

*3 unit(s)*

Analysis and evaluation of work systems in terms of the capabilities and limitations of human participants. Person as a system component. Emphasis is on evaluation of how work affects people and how people affect the work.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*ISE 211 - Experiment Design for Human Factors Engr*

*3 unit(s)*

Hypotheses testing, linear regression, analysis of variance, factorial experiments, fractional factorial designs, Construction/analysis of complete/incomplete block designs, non-parametric statistical methods including alternatives to ANOVA, multiple comparisons, power and sample size determination, and factor analysis.

**Prerequisite(s):** STAT 115 or ISE 130 or ISE 201 or equivalent (with a grade of B or better)

**Grading:** Graded

*ISE 212 - Human Factors Experiments*

*3 unit(s)*

Research and experimentation on specific aspects of the person as a system or in systems. Particular emphasis is placed on in-depth studies of unique human factors.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** ISE 210 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ISE 213 - Principles of Engineering Management*

*3 unit(s)*

Functions of engineering managers: planning, organizing, leading, and controlling. Business fundamentals for engineering managers. Engineering leadership and engineering management. Project management methods: planning, scheduling and controlling.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ISE 214 - Enterprise Engineering*

*3 unit(s)*

The body of knowledge, principles, and disciplines related to the analysis, design, implementation, and operation of all elements associated with an enterprise which is explained through a set of conceptual models and the understanding of an enterprise from engineering perspective.

**Prerequisite(s):** ISE 213

**Grading:** Graded

*ISE 215 - Usability Evaluation and Testing*

*3 unit(s)*

Seminar is designed to provide students with a comprehensive overview of usability testing methods, as applied to systems products and software-web applications. Course will address testing methods, processes and marketing justification for usability testing.

**Prerequisite(s):** ISE 210

**Grading:** Graded

*ISE 217 - Human Computer Interaction*

*3 unit(s)*

Human performance characteristics, computational tools, and HCI applications. How to access/evaluate HCI requirements, to design HCI requirements, to assess the impact of design on performance, and to generalize the design implication to system function.

**Grading:** Graded

*ISE 218 - Interaction Design I*

*3 unit(s)*

Theory, science and application of user experience interaction design. Latest tools and techniques. Relationship



between software interaction design patterns, usability, learnability and human performance in man-machine systems.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ISE 219 - HCI for Cyber Security*

*3 unit(s)*

The course covers HCI in cyber security that include: authentication and access control, trust, user privacy and data protections, cyber security in social networking, data protection and security in healthcare , cyber security in eCommerce, mobile, computing & cloud computing, compliance and regulation, visualization tools and techniques in cyber security and privacy.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ISE 220 - Interaction Design II*

*3 unit(s)*

Advanced topics for design of product and service experiences focused on methods that motivate, delight and influence human behavior during engagement with applications and information in multiple media and across devices ranging from wearables to mobile and Web.

**Prerequisite(s):** ISE 218

**Grading:** Graded

*ISE 222 - Adv Sys Engr*

*3 unit(s)*

Systems engineering and analysis concepts, methodologies, models, and tools needed to understand and implement total life-cycle approach to systems. Model Based Systems Engineering for domain-specific models. System analysis models for economic evaluation, optimization and control. Systems design for reliability, maintainability, usability, producibility, logistics, disposability and sustainability.

**Prerequisite(s):** ISE 201 or equivalent.

**Grading:** Graded

*ISE 223 - Dec Model Sus Dev*

*3 unit(s)*

Planning and decision models for resource management toward achieving economic, environmental, and social objectives in public and private organizations. Key modeling approaches include life cycle assessment, capital project evaluation, multi-criteria decision making under uncertainty, and machine learning. Exploration of business models for service economy, extended producer responsibility, and sustainable development.

**Prerequisite(s):** ISE 130 or equivalent

**Grading:** Graded

*ISE 230 - Advanced Operations Research*

3 unit(s)

Advanced operations research techniques and topics. Practical consideration in understanding and utilizing operations research methods. Critical analysis of case studies.

**Prerequisite(s):** ISE 130.

**Grading:** Graded

*ISE 233 - Operational Data Analysis for Industrial Systems*

3 unit(s)

Analysis of how data can be used to improve industrial operations. IoT. Data collection, storage, and communication technologies and approaches. Maintenance, operational performance, and quality applications of operational data analysis and machine learning.

**Prerequisite(s):** ISE 201 and ISE 140 or instructor consent

**Grading:** Graded

*ISE 235 - Quality Assurance and Reliability*

3 unit(s)

Selection of adequate variables to monitor a manufacturing/service process; quality improvement through process design, vendor management, customer feedback and product development; use of statistical control charts, the Pareto principle, PDCA, process capability; design for reliability, statistical techniques for analysis of reliability and reliability growth.

**Prerequisite(s):** ISE 130 (or equivalent). Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*ISE 240 - Analytics for Systems Engineering*

3 unit(s)

Application of data analysis, predictive and prescriptive (optimization) modeling techniques to analyze, model, and optimize real-world industrial and systems engineering problems using computer programming languages.

**Prerequisite(s):** ISE 170 or equivalent, ISE 130 or equivalent Classified graduate standing or instructor consent

**Grading:** Graded

*ISE 241 - Advanced Operations Planning and Control*

3 unit(s)

Design, implementation and evaluation of production and service systems; manufacturing strategy, choice of processes, resources planning, production and procurement control, forecasting methods, scheduling considerations and decision-making techniques.

**Prerequisite(s):** ISE 140 or instructor consent.

**Grading:** Graded

*ISE 242 - Advanced Service Systems Engineering and Management*

3 unit(s)

Advanced studies of operational productivity, operational quality, strategy and information technology applications in the service sector through the use of tools, techniques and case studies. Current literature review of issues related to

service sector productivity, quality and value.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*ISE 243 - Advanced Supply Chain Analytics*

3 unit(s)

Machine Learning and Artificial Intelligence methodologies and their applications in supply chain applications.

**Prerequisite(s):** ISE 240, ISE 245 or equivalent.

**Grading:** Graded

*ISE 244 - AI Tools and Practice for Systems Engineering*

3 unit(s)

Artificial Intelligence software tools useful for industrial and systems engineering. Emphasis on clear understanding of the mathematics behind them, what tools to use in which conditions, and how to interpret and use the results.

**Grading:** Graded

*ISE 245 - Advanced Supply Chain Engineering*

3 unit(s)

Supply chain concepts, strategies; emphasis on analytical tools to solve supply chain problems. Fundamentals of supply chain modeling of inventory, transportation, location, facility planning problems. Information sharing, risk pooling. Mechanisms for increasing profits.

**Prerequisite(s):** ISE 140.

**Grading:** Graded

*ISE 247 - Logistics for Supply Chain*

3 unit(s)

An exploration of logistics for entire supply chain system from inbound movement through material management to physical distribution to customers. Topics include: packaging and handling, material management, transportation and traffic management, facility location and global logistics.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*ISE 250 - Leading the Six Sigma Improvement Project*

3 unit(s)

Improvement projects are critical. Covers Six Sigma methodology, problem-solving tools to improve cost, quality, time and variability. Management of projects, teams, change, and benchmarking; root cause problem solving, and implementation effectiveness. Practical experience through course project.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ISE 251 - Managing the Lean Enterprise Improvement Program*

3 unit(s)

The elements of an effective organizational improvement program composed of multiple projects. Covers capabilities-based strategy; dimensions of performance such as cost, quality and time; when to use Six Sigma, Lean, Theory of Constraints and Reengineering.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ISE 260 - Healthcare Delivery Systems*

3 unit(s)

Overview and analysis of health care delivery systems in the US with emphasis on the assessment, analysis, and improvement of operational quality, efficiency, and effectiveness. Impact on primary components of health care systems: facilities, approaches to care and treatment modalities, and personnel. Quantitative and qualitative techniques and applications to improve health care systems; performance measures used to evaluate access and quality of care. Impact of healthcare policies, laws, economics, and current US health care culture on organizational performance and patient outcomes

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ISE 261 - Medical Errors Reduction and Patients Safety Engineering*

3 unit(s)

Standardization of national reporting of medical errors; patient safety and high risks processes performance analysis; Safety improvements utilizing human factors techniques; information technology applications to reduce medication errors and improve patient safety; structured teams and systems to reduce clinical errors.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*ISE 262 - Healthcare Financial Engineering Management*

3 unit(s)

Evaluation of healthcare systems underlying health economics principles with emphasis are on financial strategy planning and capital formation; integrated analysis that spans clinical, access and revenue financial functions; new approaches to reimbursement methods and pricing of alternatives health care providers.

**Prerequisite(s):** Graduate Standing.

**Grading:** Graded

*ISE 263 - Healthcare Information Systems*

3 unit(s)

Current and emerging use of clinical information, electronic medical records and clinical information systems. Healthcare enterprise architecture. Pre-built automation models of unified patients records. Automated decision support. Integrated interfaces, interoperable record exchange, and meta knowledge integration. Security of healthcare information.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*ISE 265 - Advanced System Simulation*

3 unit(s)

Use of computerized simulation and modeling techniques to conduct experiments, evaluate the costs of a process, evaluate alternative inspection policies and determine effects of JIT management models for shop setting.

**Prerequisite(s):** ISE 167 or instructor consent.

**Grading:** Graded

*ISE 270 - Information Engineering*

3 unit(s)

Technologies, strategies and systems for planning, analyzing, designing and implementing data resources in order to ensure and continuously improve processes in the enterprise; object-oriented development, Computer-Aided Software/Systems Engineering (CASE); information superhighway, client/server computing and distributed database management systems.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** CMPE 30 or instructor consent. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ISE 290 - Human Factors & Ergonomics Professional Seminar*

2 unit(s)

Real world skills necessary to start your professional HR/Ergo career, i.e. public presentation, terminology, field evaluations, current research and industry issues in human factors and ergonomics.

**Prerequisite(s):** Graduate standing.

**Grading:** Credit/No Credit

*ISE 292 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ISE 297 - Special Topics in Industrial Engineering*

1-4 unit(s)

Special topics to augment regularly-scheduled courses.

**Prerequisite(s):** Graduate standing in industrial engineering.

**Grading:** Graded

*ISE 298 - Special Problems*

1-4 unit(s)

Advanced individual work in industrial engineering. Repeatable for up to 18 units when project changes.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*ISE 299 - Master's Thesis*

1-4 unit(s)

Repeatable: Repeatable for credit.

**Prerequisite(s):** Consent of thesis advisor. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*ISE 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a thesis or project class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Mechanical Engineering

**Office:** Engineering Building 310

**Telephone:** 408-924-3850

**Email:** [mechanical-engineering@sjsu.edu](mailto:mechanical-engineering@sjsu.edu)

**Email an undergraduate advisor:** [bsme-advising-group@sjsu.edu](mailto:bsme-advising-group@sjsu.edu)

**Website:** [sjsu.edu/me](http://sjsu.edu/me)

### Professors

Raghu B. Agarwal, Graduate Program Coordinator

Fred Barez

Winncy Y. Du

Burford J. Furman

Tai-Ran Hsu

John Lee

Nicole Okamoto, Chair

Raymond K. Yee, Associate Chair

### Assistant Professors

Feruzha Amirkulova  
 Amir Armani  
 Saeid Bashash  
 Amir Ghazanfari  
 Crystal Han  
 Farzan Kazemifar  
 Vimal Viswanathan

## Overview

Do you like to design and innovate? Are you good at math and science? Would you like to help solve problems facing our society? Consider a BS or MS in Mechanical Engineering. These programs are part of the Charles W. Davidson College of Engineering, which is ranked #3 in the nation among public universities that do not offer a doctorate. We place hands-on labs and projects as a priority, and interaction with faculty is substantial. Mechanical engineering students focus on mechanical design, mechatronics, thermal-fluids engineering, or a combination of those areas. Our BS and MS graduates work in industries including product design, sustainable energy, transportation solutions, biomedical devices, aerospace systems, sensor technology, and semiconductor manufacturing. Please visit our website at [www.sjsu.edu/me](http://www.sjsu.edu/me) for more information. The BS Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, [www.abet.org](http://www.abet.org).

## Undergraduate

### Mechanical Engineering, BS

- Department of Mechanical Engineering
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 18

Major Preparation 33

Major Requirements 69

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All courses required in the major (all courses in preparation for the major, core, required, capstone, and technical electives) must be completed with a grade of "C- or better". The following courses in Preparation and Required for the Major must be completed with a "C or better": ENGR 100W. The following required courses must be completed with a "C or better" to earn S and V credit: ME 195A, ME 195B, ENGR 195A, ENGR 195B.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (18 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

### Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (33 units)



- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent second semester composition course.)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (B1+B3)

## Major Requirements (69 units)

### Core Courses (17 units)

- CE 95 - Theory and Application of Statics 3 *unit(s)*
- EE 98 - Introduction to Circuit Analysis 3 *unit(s)*
- ENGR 10 - Introduction to Engineering 3 *unit(s)* (E)
- MATE 25 - Introduction to Materials 3 *unit(s)*
- ME 20 - Design and Graphics 2 *unit(s)*
- ME 30 - Computer Applications 2 *unit(s)*
- ME 41 - Machine Shop Safety 1 *unit(s)*

### Required Courses (43 units)

*Must take both ME 195A and ME 195B and ENGR 195A and ENGR 195B to meet Area requirements*

- CE 112 - Mechanics of Materials 3 *unit(s)*
- ENGR 100W - Engineering Reports 3 *unit(s)* (Z+R)
- ME 106 - Fundamentals of Mechatronics Engineering 3 *unit(s)*
- ME 111 - Fluid Mechanics 3 *unit(s)*
- ME 113 - Thermodynamics 4 *unit(s)*
- ME 114 - Heat Transfer 3 *unit(s)*
- ME 115 - Thermal Engineering Laboratory 1 *unit(s)*
- ME 120 - Experimental Methods 2 *unit(s)*
- ME 130 - Applied Engineering Analysis 3 *unit(s)*
- ME 147 - Dynamic Systems Vibration and Control 3 *unit(s)*
- ME 154 - Mechanical Engineering Design 4 *unit(s)*
- ME 195A - Senior Design Project I 3 *unit(s)* (S)
- ME 195B - Senior Design Project II 3 *unit(s)* (V)
- ENGR 195A - Global and Social Issues in Engineering 1 *unit(s)* (S)
- ENGR 195B - Global and Social Issues in Engineering 1 *unit(s)* (V)

### Complete One Course From:

- ME 101 - Dynamics 3 *unit(s)*
- ME 101H - Honors Dynamics 3 *unit(s)*

## Required Capstone Courses (3 units)

Complete one course from:

- ME 157 - Mechanical System Design 3 *unit(s)*
- ME 182 - Thermal Systems Design 3 *unit(s)*
- ME 190 - Mechatronics System Design 3 *unit(s)*

## Technical Electives (6 units)

Technical electives can be chosen from designated courses for breadth or focus in one of the three areas of mechanical design, mechatronics, or thermal/fluids, with advisor approval.

## Total Units Required (120 units)

# Master

## Mechanical Engineering, MS

The Mechanical Engineering graduate program, offered by the Department of Mechanical Engineering is designed to afford ample opportunity for working engineers to continue their education. Courses and scholarly activities in such areas as computational fluid dynamics, thermodynamics, heat transfer, rigid-body dynamics, robotics, vibrations, product design, finite element methods, computer-aided mechanical engineering design and optimization, controls and manufacturing engineering and mechatronic systems engineering can lead to a degree of Master of Science in Mechanical Engineering (MSME).

For more information visit the program website at [www.sjsu.edu/me](http://www.sjsu.edu/me).

## Educational Objectives for Graduate Program

The Master of Science in Mechanical Engineering degree program provides students with:

1. A strong foundation beyond the undergraduate level in their chosen focus area as well as in mathematics, basic science and engineering fundamentals, that allows them to successfully compete for technical engineering positions in the local, national and global engineering market, advance in their current position or pursue doctoral studies.
2. Professional and lifelong learning skills to be able to apply and extend theory to solve practical contemporary engineering problems.
3. The expertise necessary to design mechanical engineering systems with possible specialization in areas such as energy systems, thermal management of electronic systems, electronics packaging and reliability, finite element analysis and CAD, mechatronics and MEMS, product design, robotics, automation and manufacturing.
4. Strong verbal and written communication skills, including the ability to comprehend and write technical documents.
5. Ability to think and work independently to perform design and in-depth analysis in solving open-ended mechanical engineering problems.

## Admission Requirements

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Mechanical Engineering Program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

Students desiring to pursue a Master of Science in Mechanical Engineering must meet all the university admission requirements and satisfy each of the following requirements for admission to classified standing:

1. A Bachelor of Science degree from an engineering department accredited by the Accreditation Board of Engineering and Technology (ABET) or equivalent. Special programs can be developed for those with degrees from other related disciplines. These programs must be approved by the Graduate Program Advisor.
2. A minimum grade point average (GPA) of 3.0 on a 4.0 scale over the last 60 semester units completed in engineering and/or science.
3. Applicants from non-ABET accredited Mechanical Engineering programs must have obtained minimum GRE scores as stipulated on the Graduate Program Test Requirements webpage at GAPE.

## Admission to Conditionally Classified Standing

Applicants whose records show certain deficiencies, such as in GPA or having a non-ME undergraduate major, may be admitted to conditionally classified standing. The Mechanical Engineering Graduate Program Advisor should be contacted for this purpose. Conditionally classified students may later initiate petitions for classified standing in the program when such deficiencies have been removed and their records show promise of success in the degree program. The individual admission letter will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Graduate Candidacy

Prior to registering for the first time (or upon reentering), a student should consult with the Mechanical Engineering Graduate Program Advisor. A schedule of courses will be developed at this time. Students admitted as conditionally classified must satisfy the requirements listed on their letter of acceptance and then apply to GAPE for a change of classification. Students who have completed matriculation and received classified standing in a master's degree curriculum must next be advanced to candidacy for the degree.

A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in 100- or 200-level courses acceptable to the department in which the degree is sought as well as satisfying all other university requirements for advancement to candidacy. Both the university overall GPA and the GPA in courses listed on the MSME Candidacy Form must be at least 3.0 on a scale of 4.0.

If a student's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, it will be necessary to take the preparatory courses to meet these requirements. Such courses will not be counted as part of the master's degree program requirements.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must have their advancement to candidacy approved before starting the first semester of their master's project or thesis classes (ME 295A or ME 299).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Department Graduation Requirements

The MS program in Mechanical Engineering consists of 30 semester units of approved work as follows:

- 9 units of required core courses for the degree.
- 3 units of the 9-unit core satisfy the Graduate Writing Requirement (GWAR).
- 15 units of elective courses, which ordinarily must be 200-level courses in Mechanical Engineering. With approval by the Graduate Program Advisor, a student may apply up to 6 units of elective coursework from undergraduate (upper division) SJSU Mechanical Engineering electives or graduate courses from other departments, colleges, or universities.
- 6 units of thesis (Plan A) or project (Plan B).

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) as their program culminating experience.

#### Plan A (Thesis)

Plan A requires two semesters of ME 299 - Master's Thesis, 3 units each. The thesis will include original research on a topic approved by the thesis committee, and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, an open examination (oral defense) will be conducted by the student's thesis committee.

#### Plan B (Project)

With Plan B, the master's project sequence of ME 295A for 3 units followed by ME 295B for 3 units is required. In addition, an open examination (oral defense) will be conducted by the student's project committee.

## Master's Requirements (30 units)

### Core Courses (9 units)

- ME 230 - Advanced Mechanical Engineering Analysis 3 unit(s)
- ME 273 - Finite Element Methods in Engineering 3 unit(s)

### Complete One from the Following:

*Students who have a GVAR waiver can replace these units with 3 elective units.*

- ENGR 200W - Engineering Reports and Graduate Research 3 unit(s) (GVAR)
- ME 201 - Project Planning 3 unit(s) (GVAR)
- ME 265 - Computer-Aided Mechanical Engineering Design 3 unit(s) (GVAR)

### Electives (15 units)

Elective courses must be selected in consultation with the Graduate Program Advisor

### Culminating Experience (6 units)

#### Complete One Option (Plan A or Plan B):

#### Plan A (Thesis)

- ME 299 - Master's Thesis 3 unit(s) (Complete six units of ME 299)
- Oral Defense

#### Plan B (Project)

- ME 295A - Mechanical Engineering Project I 3 unit(s)
- ME 295B - Mechanical Engineering Project II 3 unit(s)
- Oral Defense

### Total Units Required (30 units)

Elective courses must be planned in consultation with the ME Graduate Program Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

*ME 20 - Design and Graphics*

2 unit(s)

Introduction to design and graphical solutions to three-dimensional design problems involving points, lines, surfaces and solids. Development of visualization and technical sketching skills in conjunction with orthographic and pictorial projections. Focus on computer-aided design and graphical analytical methods.

*Misc/Lab: Lecture 1 hour/lab 3 hours.*

**Corequisite(s):** Engineering majors: ENGR 10; Technology majors: none

**Grading:** Graded

*ME 30 - Computer Applications*

2 unit(s)

Using a computer to solve engineering problems through programming and the use of engineering application procedures. Use of procedural and informational problem solving methods and practices applied to software design, application, programming and testing.

*Misc/Lab: Lecture 1 hour/lab 3 hours.*

**Grading:** Graded

*ME 41 - Machine Shop Safety*

1 unit(s)

Introduction to basic machine shop safety and skills. Fabricating of mechanical components and assemblies from engineering drawings, performing tolerance inspection, developing fabrication process plans.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** ME 20, TECH 20A, CE 20 or equivalent.

**Grading:** Graded

*ME 42 - Manufacturing and Machine Shop Projects and Practices*

1 unit(s)

Individual manufacturing processes and machine shop practices. Fabrication of mechanical components and assemblies in fulfillment of senior, course, special, and approved student club assignments and projects.

*Misc/Lab: 3 hours lab*

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** TECH 41/ME 41 (with grade "C-" or better).

**Grading:** Credit/No Credit

*ME 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ME 100 - Mechanical Engineering Career Development*

1 unit(s)

Further intellectual, personal, and professional growth in Mechanical Engineering. Directed discussions and activities focused on building professional presence and communication strategies for a professional career starting with the internship and ending with employment post-graduation.

**Prerequisite(s):** ENGL 1B or second semester Composition Course, Mechanical Engineering Majors Only.

**Grading:** Credit/No Credit

*ME 101 - Dynamics*

3 unit(s)

Vector mechanics. Two and three dimensional motion of particles and rigid bodies. Force, energy and momentum principles.

**Prerequisite(s):** CE 95 or CE 99, and MATH 32 or MATH 32X (each with a grade of "C-" or better). Sophomore or upper division standing. Allowed Declared Majors: Any Engineering.

**Grading:** Graded

*ME 101H - Honors Dynamics*

3 unit(s)

Kinematics and dynamics of particles and rigid bodies. Mass distribution, forces, moments, and torques. Principles of work, power, potential and kinetic energy, impulse, and momentum. Laws of motion. Computational solutions to equations governing dynamic systems. Demonstrations and physical examples.

**Prerequisite(s):** MATH 32 or MATH 32X and either CE 95 or CE 99 (each with a grade of "B" or better).

**Grading:** Graded

*ME 106 - Fundamentals of Mechatronics Engineering*

3 unit(s)

Foundational concepts in mechatronics including analog and digital electronics, sensors, actuators, microprocessors and microprocessor interfacing to electromechanical systems. Hands-on laboratory experiments with components and measurement equipment used in the design of mechatronic products.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** EE 98 and ME 30 (each with a grade of "C-" or better ). For IT majors: TECH 60, MATH 71 or MATH 71X, CMPE 46 (each with a grade of 'C-' or better).

**Grading:** Graded

*ME 109 - Heat Transfer in Electronics*

3 unit(s)

Introduction to thermodynamics and heat transfer, including conduction, convection and radiation. An emphasis on applications for electronics; including heat transfer in computer components, heat sinks, liquid and air cooling and heat pipes.

**Prerequisite(s):** EE 98, PHYS 51 and one of the following courses: MATH 39 or MATH 33LA. Allowed Declared Majors: Computer Engineering, Electrical Engineering, Engineering, Industrial and Systems Engineering.

**Grading:** Graded

*ME 110 - Manufacturing Processes*

3 unit(s)

Fundamentals of manufacturing processes such as machining, forming, casting, molding and welding. Surface treatments, powder-based processes, and microfabrication methods. Materials behavior and selection for manufacturing. Geometric dimensions and tolerancing.

**Prerequisite(s):** ME 20 with a grade of "C-" or better.

**Pre/Corequisite(s):** MATE 25.

**Grading:** Graded

*ME 111 - Fluid Mechanics*

3 unit(s)

Fluid properties, statics, dynamics of fluids; continuity, linear and angular momentum and energy principles. Viscous and non-viscous flow. Pumps, turbines, flow in pipes and around submerged obstacles. Dimensional analysis and dynamic similitude.

**Prerequisite(s):** CE 95 or CE 99, and MATH 32 or MATH 32X (each with a grade of "C-" or better). Sophomore or upper division standing. Allowed Declared Majors: Engineering, Civil Engineering, Industrial and Systems Engineering, Materials Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 113 - Thermodynamics*

4 unit(s)

Properties of simple compressible substances, ideal gas and other equations of state. First and Second Laws of Thermodynamics, energy, and irreversibility. Power cycles and refrigeration cycles. Gas mixtures, gas-vapor mixtures, and air conditions processes.

**Prerequisite(s):** PHYS 52, and MATH 32 or MATH 32X (with a grade of 'C-' or better in each).

**Grading:** Graded

*ME 114 - Heat Transfer*

3 unit(s)

Conduction, convection and radiation heat transfer with applications. Analytical, experimental, and computational methods of analyzing heat transfer behavior.

**Prerequisite(s):** MATH 33A or MATH 33LA, and ME 113 (each with a grade of 'C-' or better).

**Grading:** Graded

*ME 115 - Thermal Engineering Laboratory*

1 unit(s)

Thermodynamics and heat transfer experiments. Temperature, pressure, and flow rate measurements. Technical reports and presentations.

*Misc/Lab: 3 hour Lab.*

**Pre/Corequisite(s):** ME 114.

**Grading:** Graded



*ME 120 - Experimental Methods*

2 unit(s)

Theory and practice of experimental methods and sensors for mechanical measurements; statistical and uncertainty analysis; computer-hosted data acquisition, processing and analysis; formal report writing and presentations.

*Misc/Lab: Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** CE 112 and ENGR 100W (with a grade of 'C-' or better in each).

**Corequisite(s):** ME 130. AE majors may use AE 162 and AE 168 to satisfy corequisite requirements.

**Grading:** Graded

*ME 130 - Applied Engineering Analysis*

3 unit(s)

Analytic models for physical systems in mechanical engineering. Practical interpretations of analytical solutions. Introduction to linear algebra and statistics.

**Prerequisite(s):** MATH 33A and ME 101 (each with a grade of "C-" or better). Allowed Declared Majors: Mechanical Engineering.

**Pre/Corequisite(s):** ME 113.

**Grading:** Graded

*ME 135 - Introduction to Composite Materials*

3 unit(s)

Introduction to theory, application, and design with composite materials, including high performance resin-matrix fibrous composites and metal-matrix materials. Topics include materials, test techniques, environmental effects, design considerations, and application requirements.

**Prerequisite(s):** MATE 25.

**Grading:** Graded

*ME 136 - Design for Manufacturability*

3 unit(s)

Principles and practice of design and manufacturability, design parameters; manufacturing techniques; reliability; design for quality, assembly and environmental considerations; case study projects and laboratory activities.

**Prerequisite(s):** ME 110 and either ME 154 or AE 114, all with C- or better.

**Grading:** Graded

*ME 140 - Green & Sustainable Product Design*

3 unit(s)

Advanced product and process design with a focus on green and sustainable design and on manufacturing green products. Analysis of process and material selection for environmental impact. Composite and advanced materials processing. Laboratory exercises and planning for green manufacturing.

*Lecture 3 hours/Lab 3 hours.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** TECH 20A; CHEM 1A or CHEM 30B; MATH 71 or MATH 71X or MATH 30 or MATH 30X.  
**Grading:** Graded

*ME 147 - Dynamic Systems Vibration and Control*

3 unit(s)

Mathematical representation of dynamic systems. Damped and undamped free and forced vibrations for single and multiple degree of freedom systems. Vibration control and isolation. Dynamic analysis of control systems. Transient response, frequency response and the stability criteria. State-variables approach. Feedback and feedforward compensation. Emphasis on engineering problems involving analysis and design.

**Prerequisite(s):** ME 130 (with a grade of 'C-' or better). Upper Division Standing. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 149 - Engineering Acoustics*

3 unit(s)

Generation, transmission and absorption of sound. Noise measurement. Applications to architectural design, control and reduction of noise.

**Prerequisite(s):** ME 130. Upper division standing.

**Grading:** Graded

*ME 154 - Mechanical Engineering Design*

4 unit(s)

Introduction to the design and analysis of mechanisms and machine elements. Linkage synthesis. Kinematic and dynamic analysis of mechanisms. Application of statics, dynamics, strength of materials, static failure theories and fatigue theory to the design of machine components. Threaded fasteners. Group design project.

**Prerequisite(s):** ME 20, ME 101, CE 112, MATE 25, all with a C- or better. Junior or senior only. Allowed Declared Majors: Any Engineering.

**Corequisite(s):** TECH 41/ME 41

**Grading:** Graded

*ME 157 - Mechanical System Design*

3 unit(s)

Introduction to the mechanical design process. Design and selection of specific machine components including springs, bearings, brakes, clutches and gears. Introduction to fatigue design using fracture mechanics. Application of plastics, composite materials and finite element methods in design. Group design project. Computer applications in the design process and in design optimization.

**Prerequisite(s):** ME 130, ME 154 with a grade of 'C-' or better.

**Corequisite(s):** ME 110

**Grading:** Graded

*ME 160 - Introduction to Finite Element Method*

3 unit(s)

Matrix algebra, interpolation functions. Deformation and stress analysis, using truss, beam, plate and axisymmetric elements.

**Prerequisite(s):** ME 20, CE 112, and either ME 130 or MATH 39, (each with a grade of "C-" or better).

**Grading:** Graded

*ME 165 - Computer-Aided Design in Mechanical Engineering*

3 unit(s)

Theory and application of CAD. 2-dimensional and 3-dimensional modeling, commercial CAD software. Application to finite element analysis.

**Prerequisite(s):** ME 20, CE 112, and either ME 130 or MATH 39, (each with a grade of "C-" or better). Allowed

Declared Majors: Aerospace Engineering, Mechanical Engineering

**Grading:** Graded

*ME 167 - Introduction to Engineering Biomechanics*

3 unit(s)

Introduction to the mechanical behavior of biological systems: mechanics of cells, mechanics of biological fluids (blood circulation), mechanics of blood vessels, biomechanics of the muscular-skeletal system. Kinematics and dynamics of motion. Application of engineering fundamentals to the human body structure and functional relationships.

**Prerequisite(s):** MATE 25 and either CE 95 or CE 99.

**Grading:** Graded

*ME 168 - Microfluid Fabrication and Design*

1 unit(s)

Hands-on design, fabrication, and testing of microfluidic devices. Processes including photolithography, soft lithography, and plasma bonding. Design problems for microfluidic devices. Introduction to microfluidics simulation.

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*ME 169 - Microelectromechanical Systems Fabrication and Design*

1 unit(s)

Hands-on design, fabrication, and testing of micro electro-mechanical systems (MEMS). Processes including photolithography, etching, and metal deposition applied to MEMS. Design problems for MEMS transducer components. Introduction to MEMS simulation.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** MATE 25 or MATE 153 or MATE 129/EE 129.

**Grading:** Graded

*ME 170 - Solar Energy Engineering*

3 unit(s)

Fundamentals of solar energy engineering, basic principles, design and operation of solar systems. Solar energy generation, storage and system efficiency.

**Prerequisite(s):** EE 98 and ME 109, ME 114 or CHE 190 (with a grade of 'C-' or better in each)

**Grading:** Graded

*ME 172 - Alternative and Renewable Energy Resources*

3 unit(s)

An introduction to alternative energy sources such as solar, wind, nuclear, geothermal, hydroelectric, biomass and fuel cell. Stationary power generation and storage.

**Prerequisite(s):** ME 114 or CHE 109/ME 109 or CHE 190.

**Grading:** Graded

*ME 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics. By arrangement.

**Prerequisite(s):** Upper division standing and instructor consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering. Not available to Open University Students.

**Grading:** Credit/No Credit

*ME 181 - Fundamentals of Biosensors*

3 unit(s)

Operating principles, design and applications of the most commonly used biosensors: Electrochemical (Potentiometric, Amperometric, Voltammetric), Optical-based (Fluorescence, Electrophoresis, and Fiber Optic), Piezoelectric-based (Mechano, QCM Enzyme/Cell, Acoustic), and AFM (Atomic Force Microscopy) biosensors/transducers. Immunosensors and biosensors for virus detection. Biosensor signal processing and electronics. Biosensor design, materials, and applications. Case studies to explore state-of-the-art biosensor products. Invited speakers to share their first-hand experience in biosensor design and manufacturing. Term projects to design practical and functional biosensors.

**Prerequisite(s):** EE 98 with a C- or better

**Grading:** Graded

*ME 182 - Thermal Systems Design*

3 unit(s)

Integration of thermodynamics, fluid mechanics, heat transfer and economics in the design of energy conversion and transfer systems, e.g., power generation, electronics and human thermal control.

**Prerequisite(s):** ME 114, and either ME 111 or AE 160 (with a grade of 'C-' or better in each).

**Grading:** Graded

*ME 183 - HVAC Systems Design*

3 unit(s)

Calculation of heating and cooling loads. Psychrometrics and human comfort. Heating, ventilation and air conditioning

systems and equipment. Design of secondary systems for heating and cooling of buildings.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Pre/Corequisite(s):** ME 114. Junior or senior only. Allowed Declared Major: Mechanical Engineering.

**Grading:** Graded

*ME 185 - Hybrid and Electric Vehicle Fundamentals*

*3 unit(s)*

This course covers the key technical fundamentals of hybrid and electric vehicles including propulsion system design, controls, batteries and storage management, electric machines and power electronics. Review of critical technologies and components used in modern hybrid and electric vehicles. Hands-on experience through demonstrations, laboratory activities, and a term project. Guest speakers will present technical seminars on selected topics.

**Prerequisite(s):** EE 98 and ME 130, both with a C- or better

**Grading:** Graded

*ME 186 - Automotive Engineering*

*3 unit(s)*

Overview of automotive engineering including aerodynamics, structures, suspension, steering, brakes and drive-train. Application of engineering principles in automotive design and analysis. Use of vehicle dynamic simulation for performance analysis.

**Prerequisite(s):** ME 114, ME 130, ME 154 with a grade of C- or better in each.

**Grading:** Graded

*ME 187 - Automatic Control Systems Design*

*3 unit(s)*

Analysis of dynamic systems in time and frequency domain. Design of automatic control systems. Analog and digital control systems design. Computer aided control system design and performance evaluation.

**Prerequisite(s):** ME 147 with a grade of C- or better. Junior or senior only. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 189 - Design and Manufacture of Microsystems*

*3 unit(s)*

Overview of design and manufacture of microdevices and systems including MEMS. Engineering physics and mechanics; scaling laws for miniaturization, microfabrication technique, material selection, microsystems design methodologies, microsystems packaging design.

**Prerequisite(s):** ME 106, ME 154.

**Grading:** Graded

*ME 190 - Mechatronics System Design*

*3 unit(s)*

Process modeling from test data. Computer-aided dynamic system control analysis and design. Application and

integration of micro-controller for digital process and servo control. Development of smart and intelligent products with micro-controller.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** ME 106 (with a grade of 'C-' or better).

**Corequisite(s):** ME 147.

**Grading:** Graded

*ME 192 - Robotics and Manufacturing Systems*

*3 unit(s)*

Scientific and engineering principles of robotics in the area of mechanical manipulation, dynamics, sensing, actuation, control, computer vision and manufacturing automation application. Motor, motion control, digital control devices application and integration.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** ME 106 and ME 130 (with a grade of 'C-' or better in each).

**Grading:** Graded

*ME 192I - Int'l Program Studies*

*1-6 unit(s)*

**Grading:** Mixed Grading

*ME 195A - Senior Design Project I*

*3 unit(s)*

First half of a one-year team project carried out under faculty supervision. Project proceeds from problem definition to analysis, design and validation, experimentation including possible construction and testing.

*Misc/Lab: Lab 3 hours.*

*Satisfies SJSU Studies S: Self, Society & Equality in US when taken as part of the ME major sequence.*

**Prerequisite(s):** ME 114, ME 154 and ENGR 100W (with a grade of 'C-' or better in each).

**Pre/Corequisite(s):** ME 120, good standing in the program with an approved major form.

**Grading:** Graded

**Note(s):** ME 195A and ME 195B sequence must be completed in the same academic year. Meets SJSU Studies Area S and V when course is taken in combination with: ME 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and Upper Division Standing.

*ME 195B - Senior Design Project II*

*3 unit(s)*

Continuation of ME 195A. Culmination of project requiring a formal report consisting of documentation of project results and oral presentation.

*Misc/Lab: Lab 3 hours.*

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding when taken with ME Major sequence.*

**Prerequisite(s):** ME 195A with a C- or better  
**Grading:** Graded

**Note(s):** ME 195A and B sequence must be completed in the same academic year. Meets SJSU Studies Area S and V when course is taken in combination with: ME 195B, ENGR 195A and ENGR 195B. All SJSU Studies courses require completion of the WST and Upper Division Standing.

*ME 197 - Cooperative Education Project*

3 unit(s)

Part or full-time on-site paid work experience based on a pre-approved project assignment in area of student's career objective. Oral presentations, written final report and evaluation by project supervisor. Approved technical elective.

**Prerequisite(s):** Instructor consent.  
**Grading:** Graded

*ME 198 - Technology and Civilization*

3 unit(s)

History, development, and use of technology in different cultures. Technology's impact on society, global environment, the workplace, cultural values, gender roles, and newly industrialized countries of the world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ME 199 - Special Topics in Mechanical Engineering*

3 unit(s)

Special Topics in Mechanical Engineering. Content varies from semester to semester. A total of six units may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor Consent.  
**Grading:** Graded

*ME 201 - Project Planning*

3 unit(s)

Preparation for independent projects, research investigations, and professional engineering proposals. Review of scholarly literature. Development of formal objective statements and research hypotheses. Planning and articulation of tangible deliverables, resources, tasks, and milestones.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Good standing in the MSME program.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ME 210 - Advanced Thermodynamics*

3 unit(s)

Application of the first and second laws of thermodynamics to the analysis of engineering systems. Equations of state and thermodynamic property relations. Chemical equilibrium and combustion.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 211 - Advanced Heat Transfer*

3 unit(s)

Conduction, convection and radiation heat transfer, including conjugate problems. Numerical methods and use of the computer to solve heat transfer problems.

**Prerequisite(s):** ME 114 or equivalent.

**Grading:** Graded

*ME 221 - Viscous Flow Analysis and Computation*

3 unit(s)

The Navier-Stokes equations for laminar flow; exact solutions, lubrication theory and boundary layer forms with computer-based solution techniques. Reynolds-averaging and turbulent flow; solution of the Reynolds-averaged full and boundary layer equations using computers.

**Prerequisite(s):** ME 200 and ME 270. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 230 - Advanced Mechanical Engineering Analysis*

3 unit(s)

Designed to supplement and enrich students with advanced mathematical methods in treating problems selected from various areas of mechanical engineering. Topics discussed will include Fourier series, special functions, solutions to partial differential equations and numerical methods.

**Prerequisite(s):** BSME or BSAE or Instructor Consent.

**Grading:** Graded

*ME 240 - Rigid Body Dynamics*

3 unit(s)

Introduction to Euler's method, Lagrange's equations of motion and Hamilton's principle. Three-dimensional dynamics in vector and tensor notation. Multi-body dynamics. Application to engineering problems including numerical solutions.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded



*ME 243 - Vibration of Mechanical Systems*

3 unit(s)

Vibration of MDOF (Multi-degree of Freedom) systems. Eigenvalue problems. Modal analysis of damped systems. Superposition and direct integration methods. Complex frequency response. Random vibration of MDOF systems. Shock and impulse. Vibration of strings, rods and beams.

**Prerequisite(s):** BSME degree or instructor consent.

**Grading:** Graded

*ME 250 - Precision Machine Design*

3 unit(s)

Principles of precision machine design. Exact kinematic constraint. Error motions of a machine. Integration of mechanical design, materials, sensors, and metrology for precision applications.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 256 - Product Design and Development*

3 unit(s)

Introduction to the product development process as followed in the industry, latest developments in identifying product opportunities, understanding customer requirements, converting them to technical requirements, functional modeling, concept generation, selection and evaluation, latest trends in product design, patenting and intellectual property rights, group design project.

**Prerequisite(s):** Graduate standing with solid modelling knowledge

**Grading:** Graded

*ME 260 - Applied Stress Analysis*

3 unit(s)

Introduction to stress analysis techniques, including advanced strength of materials, energy methods and theory of elasticity. Elastic-plastic stresses, creep, fatigue, fracture mechanics, failure analysis.

**Prerequisite(s):** BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 265 - Computer-Aided Mechanical Engineering Design*

3 unit(s)

Integrated approach to CAD including: overview of CAD, numerical techniques for CAD, computer graphics and design, principles and management of design database systems, finite element analysis and CAD, design optimization, computer-aided linkage design and integrated CAD systems.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ME 267 - Engineering Biomechanics*

3 unit(s)

Application of engineering mechanics to human body structure and function, involving 3-D kinematics, deformable bodies, viscoelastic behavior, and non-Newtonian fluids. Modeling of hard and soft tissues and analysis of response to loading conditions. Design considerations for biomedical and orthopedic devices.

**Prerequisite(s):** Graduate standing and CE 112 or equivalent.

**Grading:** Graded

*ME 268 - 3D Printing and Additive Manufacturing*

3 unit(s)

Application of fundamental technologies in 3D printing and additive processes for polymers, metals, composites, and biomaterials. Equipment, process, and material selection for design applications such as electronics, medical devices, aerospace, vehicles and consumer products. Hands-on experience to design and perform a 3D scanning and converting digital data into physical objects.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*ME 271 - Computational Fluid Dynamics for ME*

3 unit(s)

Introduction to methods and techniques for computational solutions of fluid mechanics and heat transfer problems. Model problems from mechanical engineering are used to study the interaction of physical processes and numerical techniques. A commercial CFD package is used for analysis.

**Prerequisite(s):** BSME or instructor's consent

**Grading:** Graded

*ME 273 - Finite Element Methods in Engineering*

3 unit(s)

Introduction into various finite element methods for developing stiffness equation. Truss, beam, 2-D, 3-D and axisymmetric elements. Applications and case studies.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 274 - Advanced Finite Element Methods In Engineering*

3 unit(s)

Advanced concepts in finite element analysis, assembly modeling, contact and welded joints, anisotropy and composites, structural dynamics, nonlinear modeling, linear and nonlinear multiphysics coupled heat transfer and fluid flow, thermal stress analysis, and electromechanical coupling.

**Prerequisite(s):** ME 160 or ME 273, or instructor consent.

**Grading:** Graded

*ME 280 - Automatic Control Engineering*

3 unit(s)

Formulation of multiple dynamic systems in state space form. System transient response, stability, controllability and observability. Design of control system using conventional and modern methods. Optimum system design. Computer aided dynamic system analysis, control system design and simulation.

**Prerequisite(s):** BSME or Instructor Consent. Allowed Declared Majors: Aerospace Engineering, Mechanical Engineering.

**Grading:** Graded

*ME 281 - Advanced Control System Design*

3 unit(s)

Establishment of design criteria. Digital control system design based on conventional and modern approaches. Intelligent control system design. Digital control system hardware and software. Case studies. Microprocessor implementation of control systems.

**Prerequisite(s):** ME 280 or equivalent.

**Grading:** Graded

*ME 282 - Nonlinear and Adaptive Control*

3 unit(s)

Practical considerations in control systems design including nonlinearities, parametric uncertainties, and disturbances; phase plane and Lyapunov stability methods for nonlinear systems; sliding mode, adaptive, and adaptive-sliding control design with real-world applications; nonlinear observers, and repetitive learning control.

**Prerequisite(s):** ME 280 (or EE 231 or AE 200)

**Grading:** Graded

*ME 283 - Automatic Control of Manufacturing Processes*

3 unit(s)

Develops general concepts for control of manufacturing processes. The concepts of and tools for process modeling, process optimization and process control. Emphasizes the integrated approach combining statistical process control (SPC) and automatic process control.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 284 - Sensor Technology and Principles*

3 unit(s)

Sensors and principles, including mechanical and magnetic sensors, optical sensors, chemical sensors, and bio sensors; Sensor circuitry, signal characterization and processing; Sensor design, fabrication and applications.

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 285 - Mechatronic Systems Engineering*

3 unit(s)

Introduction of mechatronic systems. Combine hardware, software and system integration. Subjects include basic circuits, logic gates, OpAmps, encoder/decoder, DC and stepper motor, A/D and D/A, C-language, interfacing and control. Hands-on lab practices.

*Misc/Lab: Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BSME or Instructor Consent.

**Grading:** Graded

*ME 286 - Autonomous and Connected Vehicles*

3 unit(s)

Application of fundamentals of robotics, computer vision, and mechanical engineering in a vehicle-to-vehicle and vehicle-to-infrastructure connected environment for safe-driving and reducing traffic congestion. Defining levels of autonomy in relation to driver-assist and self-driving technologies. Occupant monitoring, distracted driving, and government regulations.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*ME 292 - Intn'l Prgm Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ME 295A - Mechanical Engineering Project I*

3 unit(s)

Advanced individual work in mechanical engineering, including but not limited to research, design, development, and simulation studies.

**Prerequisite(s):** Admission to Candidacy for Master's Degree in Mechanical Engineering; written proposal approved by instructor and graduate advisor. Not available to Open University Students.

**Grading:** Graded

*ME 295B - Mechanical Engineering Project II*

3 unit(s)

Continuation of ME 295A. Students complete the in-depth project, write a detailed engineering report and make a comprehensive presentation.

**Prerequisite(s):** ME 295A. Not available to Open University Students.

**Grading:** Graded

*ME 296N - Applied Nonlinear Control*

3 unit(s)

Practical considerations in control systems design: system nonlinearities, parametric uncertainties, integrator windup effects, and response optimality; Lyapunov-based analysis and control design: sliding mode, adaptive, and adaptive-sliding control; nonlinear state observers, trajectory optimization, and repetitive learning control.

**Grading:** Graded

*ME 297 - Special Topics in Mechanical Engineering*

3 unit(s)

Special topics in Mechanical Engineering. Content varies from semester to semester.

**Prerequisite(s):** Instructor Consent.

**Grading:** Graded

*ME 298 - Special Project in Mechanical Engineering*

1-3 unit(s)

Advanced individual work in mechanical engineering.

**Prerequisite(s):** Consent of project advisor. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*ME 299 - Master's Thesis*

3 unit(s)

Advanced individual work in mechanical engineering for Plan A.

**Prerequisite(s):** Consent of thesis advisors. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*ME 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** RP grade in a preceding thesis or project semester.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

# College of Health and Human Sciences

*Formerly College of Applied Science and Arts*

**Office:** MacQuarrie Hall 431

**Telephone:** (408) 924-2900

**Email:** health-human-sciences@sjsu.edu

**Website:** www.sjsu.edu/chhs

## Overview

The College of Health and Human Sciences provides both liberal and well-defined professional education at the undergraduate and graduate levels. Course work prepares students to be competent and transformative professionals in a technologically complex and culturally diverse society. The college's courses and programs provide students with a theoretical base that is developed and tested through: (1) research; (2) knowledge that can be applied in diverse systems; (3) processes that incorporate human understanding, social justice and cooperation, and (4) supervised practice through internships, field work and/or preceptorships in a variety of career-related settings. Graduates become leaders and establish professional careers as administrators, educators, practitioners, information specialists and applied researchers in a variety of settings. These settings include both private and public agencies, government institutions at all levels, community and health care organizations and educational institutions. The College of Health and Human Sciences values and respects diversity, inclusion, civility and individual uniqueness; we recognize the strength these factors bring to our community and learning environment. All of our interactions should reflect trust, caring and mutual respect. We value education and intellectual curiosity above all. The academic freedom of faculty and students is vital to our role of promoting life-long learning through intellectual inquiry, scholarship and the pursuit of knowledge. An overarching goal is that faculty and our academic programs will be recognized for outstanding research, teaching and service across disciplinary and geographic boundaries. A list of programs and courses can be found on each department page in the catalog.

- Department of Aerospace Studies (Air Force ROTC)
- Department of Audiology
- Department of Hospitality, Tourism and Event Management
- Department of Kinesiology
- Department of Military Science (Army ROTC)
- Department of Nutrition, Food Science and Packaging
- Department of Occupational Therapy
- Department of Public Health and Recreation
- School of Social Work
- The Valley Foundation School of Nursing

## Student Success Center (CHHS SSC)

**Offices/Telephone:** MacQuarrie Hall (MH) 533 / 408-924-2910; Health Building (HB) 105 / 408-924-8601

**Email:** CHHSsuccesscenter@sjsu.edu

**Website:** www.sjsu.edu/chhs-ssc

The Student Success Center in the College of Health and Human Sciences (CHHS) provides advising for undergraduate students majoring or wanting to major in programs offered in CASA Departments and Schools. All CHHS students and students who would like to be in CHHS are invited to stop by the Center for general education advising, help with changing majors, academic policy related questions, meeting with peer advisors, and/or attending various regularly scheduled presentations and workshops. Looking for academic advice or maybe just some tips about how to navigate your way around SJSU? Check out the CHHS Student Success Center! It's also a great place to study, and you can check out laptops.

## Internships

The departments/schools within the College offer internships that involve advanced practical experience, fieldwork or clinical experience in a professional work setting under direct supervision of qualified professionals. Interns would be assigned various duties and experiences related to their particular areas of specialization. Internships may include seminars, practica or preceptorships to further develop beginning and advanced level practice skills.

## International Experience Requirement

The goal of the international experience requirement is to introduce students to international and intercultural perspectives in order to prepare them to live and work in an increasingly globalized world. A number of different types of international experiences, ranging in length from 9 days to one year, can meet this requirement. Most international experience courses also allow students to earn credit towards the degree. Scholarships and Financial Aid are available to defray the costs of international travel. See International Experience for more information.

## Teaching Credential Programs

The Department of Kinesiology, in collaboration with the Connie L. Lurie College of Education, provides two single subject professional programs designed for individuals who are interested in teaching physical education or adapted physical education in grades K-12. The California School Nurse Credential prepares Registered Nurses at the Master's and Post Master's level to provide and manage health services and programs in the school setting. The School of Information offers a Teacher Librarian Credential. The teacher librarian impacts K-12 student outcomes by collaborating with teachers, working directly with students, championing reading and providing information-rich learning environments.

## Organized Research Units and Unique Programs

The programs of the College of Health and Human Sciences are further enriched by educational, research, global partnerships, as well as cultural and training opportunities provided by the following specialized research units and unique programs: Institute of Nursing Research and Practice, Center for International Sport and Human Performance, Research Institute for Foster Youth Initiatives (RIFYI), Timpany Center, The Center for Research on Effective Services (CRES), and the Center for Healthy Aging in Multicultural Populations (CHAMP).

*APSC 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*APSC 192 - International Program Studies*

1-6 unit(s)

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mixed Grading

*APSC 198ITL - International Experience Seminar*

1-6 unit(s)

Seminar for students participating in an approved international experience activity. Students will analyze and reflect upon their international experience in relation to discipline-specific knowledge acquired through academic study, their intended career, and their identity as a global citizen.

**Grading:** Credit/No Credit

## Department of Aerospace Studies (Air Force ROTC)

**Office:** Industrial Studies 214

**Telephone:** 408-924-2960

**Website:** [www.sjsu.edu/afrotc](http://www.sjsu.edu/afrotc)

**Email:** [afrotc@sjsu.edu](mailto:afrotc@sjsu.edu)

### Professors

Lt. Col. Walter Priebe

### Assistant Professors

Capt. Ashley Gammon

Capt. Marshal Neubauer

## Overview

San José State University supports a wing of Air Force Reserve Officer Training Corps (AFROTC) with cadets from San José State University, Santa Clara University, Stanford University, UC Santa Cruz, and many local community colleges. The Air Force ROTC program provides instruction in leadership, management, and national security studies along with military education and training. This program prepares the cadet for assignment to positions of responsibility and importance in the modern Air Force. Instruction is conducted on and off campus. This program offers all eligible SJSU students the opportunity to obtain an officer's commission in the United States Air Force while earning their college degrees.

## Program Overview



Our faculty brings a wealth of experience and diversity to the program. Instructors are active duty Air Force officers from various career areas and provide students with a first rate academic education and military training experience. Each faculty member also acts as a student advisor to guide students through the program and help them reach the goal of an officer's commission in the United States Air Force.

College students wishing to commission as an Air Force officer through ROTC may enroll in a three, three-and-a-half, or four-year program. Students attend Air Force ROTC classes along with other college courses and receive elective academic credit.

After successfully completing all requirements, the cadets are commissioned as Air Force officers with a minimum four-year active duty service commitment.

## Four-Year Program

The first two years of the Air Force ROTC four-year program, the General Military Course (GMC), consist of 1 hour of classroom work, two hours of leadership laboratory, and a minimum of two hours of physical conditioning each week. Upon completion of GMC requirements, cadets who wish to compete for entry into the last two years of the program, the Professional Officer Course (POC), must do so under the requirements of the POC selection system. This system uses qualitative factors, such as grade point average, unit commander's evaluation, aptitude test scores and physical fitness test scores to determine a student's officer potential. After selection, students must successfully complete a three-week summer field training program at Maxwell Air Force Base in Montgomery, AL before entering the POC.

In the POC, cadets attend class three hours a week, participate in a weekly leadership laboratory lasting two hours, and perform a minimum of two hours of physical conditioning per week. Cadets apply what they have learned in the GMC and at field training. POC cadets conduct the leadership laboratories and manage the unit's cadet corps. Each unit has a cadet corps based on the Air Force organizational pattern of flight, squadron, group, and wing. POC classes are small, with emphasis on group discussions and cadet presentations. Classroom topics include leadership, communication skills and national defense policy. Once enrolled in the POC, all cadets enlist in the Air Force Reserve and assigned to the Obligated Reserve Section.

## Scholarships

Current emphasis in the Air Force ROTC College Scholarship Program is to award scholarships to candidates pursuing undergraduate engineering or other scientific and technical disciplines. More than half of Air Force ROTC scholarships are awarded to students in these disciplines. Additionally, scholarships are available for foreign language majors; contact the Aerospace Studies department for more information regarding which foreign languages majors are eligible. Students in every degree program may enjoy scholarship opportunities, as the Air Force seeks to engage students who excel both academically and militarily.

Air Force ROTC offers several types of scholarships, awarded in increments of two, three, and four years. All types of awards provide an allowance for books, most required fees and a monthly nontaxable stipend. All scholarship cadets are required to meet certain academic, military, and physical fitness standards to earn and maintain scholarship benefits.

## Field Training

Field Training, in many cases, is a cadet's first exposure to a working Air Force environment and the Aerospace Expeditionary Force (AEF) concept. The program develops military leadership and discipline, and provides Air Force officer familiarization, orientation and motivation. At the same time, the Air Force can evaluate each cadet's potential as an officer and entry into the POC.

Field training provides Air Force leadership opportunities, professional development, marksmanship training, team building, physical fitness, and AEF orientation. Lodging, meals and transportation (from the cadet's home of record or school) are provided at no cost.

## Medical Professions

Nursing majors may apply for an AFROTC scholarship and graduates agree to accept a commission in the Air Force Nurse Corps and serve four years on active duty after successfully completing their licensing examination. Cadet premedical scholarship recipients who are accepted to medical school within one year of graduating may be sponsored in their pursuit of medical degrees.

## Legal Professions

Both first-year and second-year law students can apply for ROTC scholarships. Students complete either a one-year or a two-year ROTC program while attending law school.

Additionally, second-year law students can pursue an Air Force commission through Air Force ROTC's graduate law program. This program guarantees judge advocate duty after a student completes all Air Force ROTC, law school, and bar requirements. After graduating from an American Bar Association-accredited law school, the student must be admitted to practice law before the highest state court of any state or a federal court. The new lawyer is then commissioned into the Air Force in the grade determined by the laws and directives in effect at the time of call to active duty.

## Aerospace Studies Minor

All undergraduate students are eligible for the minor in aerospace studies. Those wishing to pursue a career as an Air Force officer after graduation should contact the Department of Aerospace Studies.

### Minor

## Aerospace Studies Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (16 units)

- AS 1A - The Foundation of the United States Air Force *1 unit(s)*
- AS 1B - The Foundation of the United States Air Force *1 unit(s)*
- AS 2A - The Evolution of USAF Air and Space Power *1 unit(s)*
- AS 2B - The Evolution of USAF Air and Space Power *1 unit(s)*
- AS 131A - Air Force Leadership Studies *3 unit(s)*
- AS 131B - Air Force Leadership Studies *3 unit(s)*

- AS 141A - National Security Affairs 3 unit(s)
- AS 141B - Preparation for Active Duty 3 unit(s)

## Total Units Required (16 units)

### *AS 1A - The Foundation of the United States Air Force*

1 unit(s)

Introduces students to the Air Force and AFROTC with an overview of basic characteristics, missions, and organization of the Air Force; additional topics include officership and professionalism, career opportunities, military customs and courtesies, and an introduction to communications skills.

**Grading:** Graded

**Note(s):** Year course. Enrollment in leadership lab required.

### *AS 1B - The Foundation of the United States Air Force*

1 unit(s)

Introduces students to the Air Force and AFROTC with an overview of basic characteristics, missions, and organization of the Air Force; additional topics include officership and professionalism, career opportunities, military customs and courtesies, and an introduction to communications skills.

**Grading:** Graded

**Note(s):** Year course. Enrollment in leadership lab required.

### *AS 2A - The Evolution of USAF Air and Space Power*

1 unit(s)

Examines general aspects of air and space power through historical study and analysis and provides the student with a knowledge level understanding of the capabilities, function and doctrinal employment of aerospace forces; emphasizes development of oral and written communication skills.

**Grading:** Graded

**Note(s):** Year course. Enrollment in leadership lab required.

### *AS 2B - The Evolution of USAF Air and Space Power*

1 unit(s)

Examines general aspects of air and space power through historical study and analysis and provides the student with a knowledge level understanding of the capabilities, function and doctrinal employment of aerospace forces; emphasizes development of oral and written communication skills.

**Grading:** Graded

**Note(s):** Year course. Enrollment in leadership lab required.

### *AS 131A - Air Force Leadership Studies*

3 unit(s)

Study of leadership, management fundamentals, professional knowledge, Air Force personnel system, ethics, and communication skills; develops application level knowledge of skills required of junior Air Force officer through case studies, practical exercises, and seminar discussion.

**Prerequisite(s):** AS 1A and AS 1B, AS 2A and AS 2B, or as determined by department chair.

**Grading:** Graded

**Note(s):** Year course. Enrollment in Leadership lab required.

*AS 131B - Air Force Leadership Studies*

3 unit(s)

Study of leadership, management fundamentals, professional knowledge, Air Force personnel system, ethics, and communication skills; develops application level knowledge of skills required of junior Air Force officer through case studies, practical exercises, and seminar discussion.

**Prerequisite(s):** AS 1A and AS 1B, AS 2A and AS 2B, or as determined by department chair.

**Grading:** Graded

**Note(s):** Year course. Enrollment in Leadership lab required.

*AS 141A - National Security Affairs*

3 unit(s)

Examines the national security process, international and regional relations, advanced leadership ethics, and Air Force doctrine with focus on the military as a profession, officership, military justice, civilian control of the military and current issues affecting military professionalism.

**Pre/Corequisite(s):** AS 131A.

**Grading:** Graded

**Note(s):** Enrollment in leadership lab required.

*AS 141B - Preparation for Active Duty*

3 unit(s)

Studies the role of the Air Force officer in contemporary society with emphasis on knowledge, comprehension, and application of skills needed to facilitate a smooth transition from civilian to military life.

**Pre/Corequisite(s):** AS 131B.

**Grading:** Graded

**Note(s):** Enrollment in leadership lab required.

## Department of Audiology

**Office:** MacQuarrie Hall, #407

**Telephone:** 408-924-8678

**Website:** [www.sjsu.edu/aud](http://www.sjsu.edu/aud)

## Professors

Shaum Bhagat, Chair  
June McCullough

## Assistant Professor

Adam Svec

# Overview

The mission of the Doctor of Audiology Program in the Department of Audiology is to provide students with an academic and clinical educational program that emphasizes a solid theoretical framework and facilitates learning outstanding clinical skills for providing high-quality services to individuals with hearing and balance disorders in our community. Graduates of our program will be ethical; culturally sensitive; committed to evidence-based practices; prepared to assume leadership roles; and experienced in, and appreciative of, an interprofessional team approach to patient care.

The Department of Audiology has received Developing Status from the Accreditation Commission for Audiology Education (ACAE), American Academy of Audiology, 11480 Commerce Park Drive, Suite 220, Reston VA 20191. The telephone number for ACAE is (703) 226-1056. The doctoral program in audiology (AuD) at San José State University is a Candidate for Accreditation by the Council on Academic Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association. This is a "pre-accreditation" status with the CAA awarded to developing or emerging programs for a maximum period of five years. The full address and telephone number for CAA is Council on Academic Accreditation in Audiology and Speech-Language Pathology, American Speech-Language-Hearing Association, 2200 Research Boulevard, #310, Rockville, MD 20850, 800-498-2071.

## Doctoral

### Audiology, AUD

- University Admissions
- Requirements to Admission
- Requirements for Advancement to Candidacy
- Requirements for Graduation
- Doctorate Requirements (110 units)
- Program Learning Outcomes

The Doctor of Audiology program, offered by the Department of Audiology, is a 4-year course of study that includes academic courses, clinical rotations, and a doctoral research project. Audiology is an allied health profession that is concerned with 1) the science of the hearing and balance mechanisms; and 2) the clinical identification, diagnosis, and treatment of individuals with hearing and balance disorders. The Doctor of Audiology program will prepare individuals to diagnose and treat hearing loss and other disorders involving the ear, advise patients on means to use and preserve their remaining hearing, and select and fit hearing aids and other devices. Coursework includes instruction in acoustics, anatomy and physiology, hearing measurement, auditory pathology, middle and inner ear analysis, vestibular analysis and rehabilitation, rehabilitation therapies and assistive technologies, and pediatric and other special applications.

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the AuD degree program. See the GAPE Graduate Admissions website and this Catalog for general information about Graduate Admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

## Requirements to Admission

The admission requirements for the Audiology doctoral program are provided in EO 1112, Article 2, Admissions. They are as follows:

1. Completion of a baccalaureate degree earned at an institution accredited by a regional accrediting association, or an equivalent academic preparation as determined by the appropriate campus authority (i.e., Graduate Admissions and Program Evaluation [GAPE]).
2. An overall GPA of 3.0 or better in all undergraduate and graduate coursework.
3. Completion of prerequisite courses in a) statistics; b) biological science; c) physics or chemistry; d) social or behavioral science (psych, sociology, anthropology, or others involving human behavior); and e) American Sign Language (optional but preferred).
4. Submission of GRE scores (no minimum requirement) for quantitative, verbal, and analytic portions of the exam; The GRE must be taken within five years of application.
5. An applicant-authored statement of purpose reflecting a commitment to audiology, including the applicant's preparation for training in this profession, aptitude and motivation, commitment to working with diverse populations and the basis for interest in audiology and specifically, the SJSU program of study.
6. Three letters of recommendation.
7. Resume.
8. Documentation of 20 hours of observation in an audiological clinic or private practice.

## Requirements for Advancement to Candidacy

Candidacy denotes that a student is fully qualified to complete the final stages of the Doctor of Audiology degree. Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). Successful completion of AUD 513 including passing the final written paper in this course with a grade of "B" or better, fulfills the GWAR in this program.

## Requirements to Graduation

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies. Completion of the degree also requires a minimum overall GPA of 3.0.

## Culminating Experience

The culminating experience will be the successful defense of the student's research project during AUD 598D - Research Project IV.

### Doctorate Requirements (110 units)

#### Year 1 (39 units)

##### Fall (15 units)

- AUD 501 - Acoustics and Instrumentation 3 *unit(s)*
- AUD 502 - Anatomy and Physiology 3 *unit(s)*
- AUD 503 - Psychoacoustics 3 *unit(s)*
- AUD 504 - Audiological Assessment I 3 *unit(s)*
- AUD 505A - Professional Issues I 3 *unit(s)*

##### Spring (15 units)

- AUD 506 - Anatomy and Physiology of the Central Auditory Nervous System (CANS) 3 *unit(s)*
- AUD 507 - Hearing Aids I 3 *unit(s)*
- AUD 508 - Audiological Assessment II 3 *unit(s)*
- AUD 505B - Professional Issues II 3 *unit(s)*
- AUD 509 - Practicum in Audiology 3 *unit(s)*

##### Summer (9 units)

- AUD 510A - Clinical Rotation in Audiology I 3 *unit(s)*
- AUD 511 - Pediatric Audiology 3 *unit(s)*
- AUD 512 - Pediatric Auditory Habilitation 3 *unit(s)*  
*Qualifying Examination required to matriculate into Year 2.*

#### Year 2 (40 units)

##### Fall (15 units)

- AUD 510B - Clinical Rotation in Audiology II 3 *unit(s)*
- AUD 513 - Research Methods 3 *unit(s)* (GWAR)
- AUD 514 - Audiological Assessment III 3 *unit(s)*
- AUD 515 - Hearing Aids II 3 *unit(s)*
- AUD 516 - Adult Auditory Rehabilitation 3 *unit(s)*

## Spring (14 units)

- AUD 517 - Audiological Assessment IV 3 *unit(s)*
- AUD 518 - Hearing Conservation 3 *unit(s)*
- AUD 519 - Hearing Aids III 3 *unit(s)*
- AUD 598A - Research Project I 2 *unit(s)*
- AUD 510C - Clinical Rotation in Audiology III 3 *unit(s)*

## Summer (11 units)

- AUD 521 - Medical Audiology 3 *unit(s)*
- AUD 522 - Tinnitus 2 *unit(s)*
- AUD 523 - Pharmacology 1 *unit(s)*
- AUD 598B - Research Project II 2 *unit(s)*
- AUD 510D - Clinical Rotation in Audiology IV 3 *unit(s)*  
*Written Comprehensive Examination required to matriculate into Year 3.*

## Year 3 (25 units)

### Fall (11 units)

- AUD 510E - Clinical Rotation in Audiology V 3 *unit(s)*
- AUD 524 - Speech Perception and Language Development 3 *unit(s)*
- AUD 505C - Professional Issues III 3 *unit(s)*
- AUD 598C - Research Project III 2 *unit(s)*

### Spring (8 units)

- AUD 505D - Professional Issues IV 2 *unit(s)*
- AUD 525 - Genetics 1 *unit(s)*
- AUD 598D - Research Project IV 2 *unit(s)*
- AUD 510F - Clinical Rotation in Audiology VI 3 *unit(s)*

### Summer (6 units)

- AUD 505E - Professional Issues V 3 *unit(s)*
- AUD 510G - Clinical Rotation in Audiology VII 3 *unit(s)*  
*Oral comprehensive examination required to matriculate into Year 4 Completion and defense of doctoral research project.*

## Year 4 (6 units)

### Fall (3 units)

- AUD 526A - Clinical Externship in Audiology I 3 *unit(s)*



## Spring (3 units)

- AUD 526B - Clinical Externship in Audiology II 3 unit(s)

## Total Units Required (110 units)

### *AUD 501 - Acoustics and Instrumentation*

3 unit(s)

Fundamentals of the physics of sound and techniques for measuring and analyzing sound and sound environments related to audiological practice.

**Prerequisite(s):** Matriculation into Doctor of Audiology Program.

**Grading:** Graded

### *AUD 502 - Anatomy and Physiology*

3 unit(s)

Anatomy and physiology of the auditory and vestibular systems, including outer ear, middle ear, and inner ear; embryologic origins and development of structures related to body systems.

**Prerequisite(s):** Matriculation into Doctor of Audiology Program.

**Grading:** Graded

### *AUD 503 - Psychoacoustics*

3 unit(s)

Psychoacoustic theory and methods; auditory perception in normal hearing and hearing-impaired listeners. Includes lab demonstrations and projects.

**Prerequisite(s):** Matriculation into Doctor of Audiology Program.

**Grading:** Graded

### *AUD 504 - Audiological Assessment I*

3 unit(s)

Evaluation of hearing using the standard audiological test battery (pure tone audiometrics, speech audiometry, acoustic immittance, and OAEs); differential diagnosis of hearing loss.

**Prerequisite(s):** Matriculation into Doctor of Audiology Program.

**Grading:** Graded

### *AUD 505A - Professional Issues I*

3 unit(s)

Topics related to the professional practice of audiology, including: the role of professional associations; scope of practice; code of ethics; HIPPA regulations; introduction to interprofessional practice; introduction to evidence-based practice. Clinical observations and experiences that underscore concepts will be included.

**Prerequisite(s):** Matriculation into the Doctor of Audiology Program.

**Grading:** Graded

*AUD 505B - Professional Issues II*

3 unit(s)

Topics related to the professional practice of audiology, including patient and family counseling; report writing; role of audiologist in the IEF/IFSP process.

**Prerequisite(s):** AUD 505A.

**Grading:** Graded

*AUD 505C - Professional Issues III*

3 unit(s)

Interprofessional identification, diagnosis, and treatment of adults and children with hearing loss and other disabilities including seminar discussion and clinical practicum experience.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 505D - Professional Issues IV*

2 unit(s)

Business practices in audiology, including billing and coding; practice management; interview strategies and processes for obtaining fourth year externships.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 505E - Professional Issues V*

3 unit(s)

Cultural competency, multicultural issues.

**Grading:** Graded

*AUD 506 - Anatomy and Physiology of the Central Auditory Nervous System (CANS)*

3 unit(s)

The organization and function of the central auditory nervous system, including the effects of hearing loss on brain organization. The relationship between visual/proprioceptive systems and hearing and balance also will be examined.

**Prerequisite(s):** AUD 502 and AUD 503.

**Grading:** Graded

*AUD 507 - Hearing Aids I*

3 unit(s)

Electroacoustical characteristics of hearing aids and group amplification systems. Topics include signal processing strategies and software used by audiologists to provide audible, intelligible, and comfortable amplification. Devices used in specialized hearing aid fittings also will be examined.

**Grading:** Graded

*AUD 508 - Audiological Assessment II*

3 unit(s)

Advanced concepts in tympanometry and otoacoustic emissions, and their role in the evaluation and differential diagnosis of hearing loss.

**Prerequisite(s):** AUD 504.

**Grading:** Graded

*AUD 509 - Practicum in Audiology*

3 unit(s)

Placement in SJSU on-campus audiology clinic for supervised training in providing audiological services to the local community. May be repeated for credit.

**Prerequisite(s):** AUD 504 and AUD 505A.

**Grading:** Graded

*AUD 510A - Clinical Rotation in Audiology I*

3 unit(s)

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Successful completion of Fall and Spring year 1.

**Grading:** Graded

*AUD 510B - Clinical Rotation in Audiology II*

3 unit(s)

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 510C - Clinical Rotation in Audiology III*

3 unit(s)

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 510D - Clinical Rotation in Audiology IV*

3 unit(s)

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 510E - Clinical Rotation in Audiology V*

*3 unit(s)*

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 510F - Clinical Rotation in Audiology VI*

*3 unit(s)*

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 510G - Clinical Rotation in Audiology VII*

*3 unit(s)*

Supervised clinical practice in audiology at an off-site location. Doctoral students are expected to become increasingly independent and knowledgeable about patient care with each subsequent placement.

**Grading:** Graded

*AUD 511 - Pediatric Audiology*

*3 unit(s)*

Topics related to hearing loss in children, including common etiologies and syndromes; newborn hearing screening procedures; and behavioral and electrophysiological diagnostic tests.

**Prerequisite(s):** AUD 504 and AUD 508.

**Grading:** Graded

*AUD 512 - Pediatric Auditory Habilitation*

*3 unit(s)*

Topics related to the management of children diagnosed with hearing loss, including: interprofessional practices; early intervention; communication modalities; hearing aid selection, provision, orientation, and follow up; FM systems; introduction to cochlear implants; Deaf community.

**Prerequisite(s):** AUD 505B and AUD 507.

**Grading:** Graded

*AUD 513 - Research Methods*

*3 unit(s)*

Design and analysis of research experiments, including the role of evidence-based practice in patient care.

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 514 - Audiological Assessment III*

3 unit(s)

Theoretical and applied aspects of electrophysiological testing, including: brainstem responses; middle-latency responses; and cognitive potentials.

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 515 - Hearing Aids II*

3 unit(s)

Selection, fitting, and verification methods for optimizing hearing aid use, satisfaction, and benefits.

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 516 - Adult Auditory Rehabilitation*

3 unit(s)

Topics related to the management of adults with hearing loss, including the impact of hearing loss on adults of all ages; diagnosis of handicap; communicative strategies; speechreading; individual and group therapy techniques.

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 517 - Audiological Assessment IV*

3 unit(s)

Theoretical and applied aspects of vestibular assessment, including the administration and interpretation of electronystagmography (ENG), rotation, and posturography.

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 518 - Hearing Conservation*

3 unit(s)

The effects of noise on hearing. Topics include definitions and measurement of occupational and recreational noise; changes in auditory physiology as a result of noise exposure; psychological effects of noise on function and productivity; federal and state regulations regarding workplace safety; and elements of hearing conservation programs (measurement; counseling; provision of ear protection).

**Prerequisite(s):** Second year standing.  
**Grading:** Graded

*AUD 519 - Hearing Aids III*

3 unit(s)

Advanced concepts in selecting, fitting, and verification of specialized hearing devices, including cochlear implants; middle-ear implants; assistive communication technologies for individuals with hearing loss.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 521 - Medical Audiology*

3 unit(s)

Pathologies of the ear and medical diagnosis and treatment; interprofessional practice in the audiological and medical community.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 522 - Tinnitus*

2 unit(s)

Etiology, diagnosis, and evidence-based treatments for patients with tinnitus.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 523 - Pharmacology*

1 unit(s)

Principles and applications of pharmacology for audiologists.

**Prerequisite(s):** Second year standing.

**Grading:** Graded

*AUD 524 - Speech Perception and Language Development*

3 unit(s)

Topics include normal speech and language development; effects of hearing loss on speech and language development; specialized tests of speech recognition in quiet and noise; and central auditory processing evaluation and treatment.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 525 - Genetics*

1 unit(s)

Applications of genetics for audiologists, including syndromes involving the auditory and vestibular systems.

**Prerequisite(s):** Third year standing.

**Grading:** Graded

*AUD 526A - Clinical Externship in Audiology I*

3 unit(s)

Full time clinical placement in an off-site facility. Placements coordinated by department chair.

**Grading:** Credit / No Credit

*AUD 526B - Clinical Externship in Audiology II*

3 unit(s)

Full time clinical placement in an off-site facility. Placements coordinated by department chair.

**Grading:** Credit / No Credit

*AUD 598A - Research Project I*

2 unit(s)

Readings and discussion of topics in preparation for doctoral student research. A research question and its justification, as well as an outline of the intended experimental process, will be finalized.

**Prerequisite(s):** Second year standing.

**Grading:** Credit / No Credit

*AUD 598B - Research Project II*

2 unit(s)

Methodology for student research projects will be finalized and IRB approval obtained, if needed.

**Prerequisite(s):** AUD 598A.

**Grading:** Credit / No Credit

*AUD 598C - Research Project III*

2 unit(s)

Data collection and analysis for doctoral student research projects.

**Prerequisite(s):** AUD 598A and AUD 598B.

**Grading:** Credit / No Credit

*AUD 598D - Research Project IV*

2 unit(s)

Completion of student research projects; oral presentations.

**Prerequisite(s):** AUD 598A, AUD 598B, AUD 598C.

**Grading:** Credit / No Credit

## Department of Hospitality, Tourism and Event Management

**Office:** MacQuarrie Hall 407

**Telephone:** 408-924-3000 (Voice); 408-924-3061 (Fax)

**Email:** [hospitality@sjsu.edu](mailto:hospitality@sjsu.edu)

**Website:** [www.sjsu.edu/hspm](http://www.sjsu.edu/hspm)

### Professors

Tsu-Hong Yen, Chair

### Associate Professors

Jooyeon Ha  
Yinghua Huang

### Assistant Professors

Jie Gao  
Faranak Memarzadeh

## Overview

Where better to study hospitality management than in the heart of Silicon Valley, San Jose, California and the Bay Area? Thanks to our world renowned high tech companies, and vibrant metropolitan location, we attract millions of national and international visitors each year. According to a recent CSU impact report, hospitality ranks as one of the state's top growth industries, ensuring that the demand for hospitality professionals will only increase. Our innovative, technology-driven curriculum and faculty provide the theoretical, practical, and professional training students need to pursue successful and meaningful careers. Our Bachelor of Science degree in hospitality, tourism and event management pairs academic study with hands-on experience and internships. Our graduates find employment as hotel/resort general managers, restaurant managers, private club managers, controllers, sales and marketing managers, human resources managers, concierge, catering and corporate event coordinators/producers, and convention and tradeshow managers. Come join our team!

## Undergraduate

### Hospitality, Tourism and Event Management, BS

- Department of Hospitality, Tourism and Event Management
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	47
Major Preparation	9
Major Requirements	60-63
University Electives	1-4
<b>Total</b>	<b>120</b>



## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Hospitality, Tourism, and Event Management International Experience Requirement

To satisfy the Department of Hospitality, Tourism, and Event Management international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience/](http://www.sjsu.edu/chahs/international-experience/).

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (9 units)

- HSPM 100W - Writing Workshop 3 *unit(s)* (Z)
- BUS1 20 - Financial Accounting 3 *unit(s)*

## Complete One Course From:

- BUS2 90 - Business Statistics 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)

## Major Requirements (60-63 units)

## College International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

## Core Courses (42 units)

- HSPM 1 - Introduction to Hospitality Management 3 *unit(s)*
- HSPM 11 - Restaurant Management 3 *unit(s)*

- HSPM 12 - Cost Control in Hospitality 3 *unit(s)*
- HSPM 65 - Professional Seminar in Hospitality Mgmt 1 *unit(s)*
- HSPM 102 - Hotel & Lodging Operations 3 *unit(s)*
- HSPM 104 - Hospitality Marketing 3 *unit(s)*
- HSPM 105 - Finance in Hospitality 3 *unit(s)*
- HSPM 107 - Legal Aspects of Hospitality Management 3 *unit(s)*
- HSPM 108 - Hospitality Information Systems 3 *unit(s)*
- HSPM 121 - Hospitality Leadership and Management 3 *unit(s)*
- HSPM 130 - Hospitality Event Production 3 *unit(s)*
- HSPM 134 - Human Resource Management 3 *unit(s)*
- HSPM 177 - Hospitality Service Management 3 *unit(s)*
- HSPM 191A - Internship Level 1 2 *unit(s)*
- HSPM 191B - Internship Level 2 3 *unit(s)*

## Major Electives (18 units)

*Up to 6 lower division semester units of approved hospitality transfer course work may apply toward the 18 units of approved major electives.*

- HSPM 23 - Culinary Concepts 3 *unit(s)*
- HSPM 86 - Special Events Management in Hospitality 3 *unit(s)*
- HSPM 101 - Multicultural & Intl Issues Hospitality 3 *unit(s)*
- HSPM 111 - Customs and Courtesies in Hospitality 3 *unit(s)*
- HSPM 140 - Meeting, Convention and Event Industry 3 *unit(s)*
- HSPM 141 - Resort and Club Management 3 *unit(s)*
- HSPM 142 - Tradeshow Event & Meeting Mgmt 3 *unit(s)*
- HSPM 143 - Tourism Destination Marketing and Management 3 *unit(s)*
- HSPM 148 - Wine Appreciation 3 *unit(s)*
- HSPM 149 - Beer Appreciation 3 *unit(s)*
- HSPM 152 - Hotel Catering and Banquet Management 3 *unit(s)*
- HSPM 154 - Revenue Management 3 *unit(s)*
- HSPM 161 - Cruise Operations and Management 3 *unit(s)*
- HSPM 175 - Entrepreneurship in Hospitality 3 *unit(s)*
- HSPM 186 - Strategic Management 3 *unit(s)*

## University Electives (1-4 units)

## Total Units Required (120 units)

## Minor

## Event Management Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (16 units)

### Core Courses (7 units)

- HSPM 1 - Introduction to Hospitality Management 3 *unit(s)*
- HSPM 65 - Professional Seminar in Hospitality Mgmt 1 *unit(s)*
- HSPM 130 - Hospitality Event Production 3 *unit(s)*

### Electives (9 units)

Complete nine units from:

- HSPM 11 - Restaurant Management 3 *unit(s)*
- HSPM 86 - Special Events Management in Hospitality 3 *unit(s)*
- HSPM 102 - Hotel & Lodging Operations 3 *unit(s)*
- HSPM 140 - Meeting, Convention and Event Industry 3 *unit(s)*
- HSPM 142 - Tradeshow Event & Meeting Mgmt 3 *unit(s)*
- HSPM 152 - Hotel Catering and Banquet Management 3 *unit(s)*
- HSPM 154 - Revenue Management 3 *unit(s)*
- HSPM 175 - Entrepreneurship in Hospitality 3 *unit(s)*

## Total Units Required (16 units)

# Hotel and Restaurant Management Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Minor Preparation (3 units)

- HSPM 1 - Introduction to Hospitality Management 3 *unit(s)*

### Core Courses (3 units)

Complete one course from:

- HSPM 11 - Restaurant Management 3 *unit(s)*
- HSPM 102 - Hotel & Lodging Operations 3 *unit(s)*

### Electives (9 units)

Complete 9 units from Advisor Approved Elective List

## Total Units Required (15 units)

### *HSPM 1 - Introduction to Hospitality Management*

3 unit(s)

Overview of structure and financial performances of hospitality industry; food and lodging, resorts, tourism enterprises, attractions and related operations. Focus on orientation to customer service, cultural/economic trends and career opportunities.

**Grading:** Graded

### *HSPM 11 - Restaurant Management*

3 unit(s)

Overview of food and beverage with emphasis on food quality.

**Prerequisite(s):** HSPM 1; HSPM 65.

**Corequisite(s):** HSPM 1

**Grading:** Graded

### *HSPM 12 - Cost Control in Hospitality*

3 unit(s)

Food, beverage and payroll systems, including standards determination; variable, semi-variable and fixed costs; the operating budget; income and cost control and menu pricing. Cost control simulation exercises implemented through software programs.

**Prerequisite(s):** HSPM 1, BUS1 20N.

**Corequisite(s):** HSPM 11 and HSPM 65

**Grading:** Graded

### *HSPM 20 - Sanitation and Environmental Issues in the Hospitality Industry*

2 unit(s)

Sanitation in food service, hotel and travel/tourism industries; study of pathogenic organisms and food handling procedures. Occupational health, safety and environmental control in the hospitality industry.

**Grading:** Graded

### *HSPM 22 - Catering and Beverage Management*

2 unit(s)

Planning and executing catering and buffet functions. Evaluation of alcoholic and non-alcoholic beverages regarding purchasing, storage, preparation, merchandising and regulations.

*Misc/Lab: Lecture/lab 4 hours.*

**Prerequisite(s):** NUFS 20 or instructor consent

**Grading:** Graded

*HSPM 23 - Culinary Concepts*

3 unit(s)

Food and beverage production techniques; preparation of food and beverage with emphasis on quality standards.

*Misc/Lab: Lecture 1 hour/Lab 6 hours.*

**Grading:** Graded

*HSPM 65 - Professional Seminar in Hospitality Mgmt*

1 unit(s)

Designed for students who have declared a major in the Hospitality, Tourism and Event Management degree. The topics selected will facilitate the student's entry into the academic program and the profession of hospitality management.

**Corequisite(s):** HSPM 1.

**Grading:** Graded

*HSPM 86 - Special Events Management in Hospitality*

3 unit(s)

Hands-on experience in the operation, coordination, and management of special events as they relate to hospitality and tourism. Students develop management skills and experience in planning and execution of a major event.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*HSPM 92 - International Studies Program*

1-12 unit(s)

**Grading:** Mixed Grading

*HSPM 100W - Writing Workshop*

3 unit(s)

Developing and enhancing written communication skills in the hospitality, recreation and tourism professions in the following areas: scientific/technical writing, administrative writing, public-relations-related writing and funding proposals. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*HSPM 101 - Multicultural & Intl Issues Hospitality*

3 unit(s)

Multicultural/international issues in the hospitality industry; historical, socioeconomic, cultural and linguistic variables presented in relationship to these issues.

**Prerequisite(s):** HSPM 1.

**Grading:** Graded

*HSPM 102 - Hotel & Lodging Operations*

3 unit(s)

Principles of organization, management and decision models applied to the tasks and challenges of hotel operations. Involves techniques of problem solving (including planning, organizing, staffing, directing and controlling operations) in areas of front office operations, housekeeping, food/beverage and personnel.

**Prerequisite(s):** HSPM 1, HSPM 65 or instructor consent. HSPM Majors and Minors only.

**Corequisite(s):** HSPM 1.

**Grading:** Graded

*HSPM 103 - Facility Planning and Design in Hospitality & Tourism*

3 unit(s)

Development, planning, and maintenance of hospitality/tourism facilities. Topics include real estate economics, income generation, lease and management contracts, project development sequencing, space and building operations planning, financing, asset management, industry practices, renovation, environmental impact and public relations.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HSPM 104 - Hospitality Marketing*

3 unit(s)

Applying marketing principles, theories, and concepts in developing marketing strategies for hospitality, recreation and tourism organizations in a dynamic business environment. Emphasis is placed on marketing mix, market segmentation and analysis, sales planning, and public relations.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS 20 or BUS 20N

**Grading:** Graded

*HSPM 105 - Finance in Hospitality*

3 unit(s)

This course provides an introduction to the fundamentals of hotel and restaurant finance and develops an understanding of the strategic roles and financial analysis and finance play in internal management decision-making.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N, HSPM 102

**Grading:** Graded

*HSPM 107 - Legal Aspects of Hospitality Management*

3 unit(s)

Introduction to fundamental legal issues and concepts related to the fields of hospitality, recreation and tourism.

Content will include legal process, source of law, organization structure, and a survey of selected legal principles from the areas of employment, public health and safety, contract, negligence, premise liability, personal property, environmental and constitutional law.

**Prerequisite(s):** HSPM 11, HSPM 65, BUS1 20 or BUS1 20N.

**Grading:** Graded

*HSPM 108 - Hospitality Information Systems*

3 unit(s)

Focuses on the application of various information systems to the management of facilities, programs, services, finances and accounting, products, marketing and sales, human resources and other major functions of hospitality, recreation, and tourism organizations/agencies.

**Prerequisite(s):** HSPM 1, HSPM 65, Bus 20 or 20N, HSPM 102

**Grading:** Graded

*HSPM 111 - Customs and Courtesies in Hospitality*

3 unit(s)

An exploration of a variety of customs and courtesies that demonstrate the influences of history, traditions, social customs, religious beliefs, language, and other cultural elements on hospitality service etiquette and manners in different cultures and countries.

**Grading:** Graded

*HSPM 121 - Hospitality Leadership and Management*

3 unit(s)

This course acquaints students with the theory and practice of management and leadership principles in a hospitality operation. Topics include: manager's roles, leadership principles, goal setting, power and empowerment, communication skills, coaching and team building, diversity, career planning, and organizational development.

**Prerequisite(s):** HSPM 1, HSPM 65

**Grading:** Graded

*HSPM 130 - Hospitality Event Production*

3 unit(s)

Planning and execution of a hospitality event. Topics include strategic planning, event design, event project management, event related technology, financial management, human resources, event marketing, and on-site management.

**Grading:** Graded

*HSPM 134 - Human Resource Management*

3 unit(s)

Explores HR functions in business settings with a focus on development of knowledge and skills needed by managers. Supervisor's role within organizations with emphasis on recruitment, selection, staff training and development, legal issues, performance appraisal, motivational strategies, public relations, and maintenance of effective environments.



**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N  
**Grading:** Graded

*HSPM 140 - Meeting, Convention and Event Industry*

3 unit(s)

Leisure service system planning through explanation of the scope and segmentation of the conference, convention and event market. Strategies in planning, developing and implementing meeting and convention services.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N  
**Grading:** Graded

*HSPM 141 - Resort and Club Management*

3 unit(s)

Management and operation of resort and private club properties from their historical development to their economic and environmental impact; marketing and managing of services provided by these facilities within the leisure industry.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*HSPM 142 - Tradeshow Event & Meeting Mgmt*

3 unit(s)

Management and operations of tradeshows from business, economic and hospitality service perspectives; understanding the marketing, fiscal, and evaluative processes necessary to provide large scale meetings including hotel negotiations, food service, contract negotiation, and onsite management.

**Prerequisite(s):** HSPM 140 or instructor consent.  
**Grading:** Graded

*HSPM 143 - Tourism Destination Marketing and Management*

3 unit(s)

Principles of destination marketing and management in formulating strategies to promote tourism in a variety of locations. Appraising a destination's potential and developing a destination's products/services and marketing campaign to attract both business and leisure travelers.

**Prerequisite(s):** HSPM 1, HSPM 11, HSPM 102, HSPM 130  
**Grading:** Graded

*HSPM 148 - Wine Appreciation*

3 unit(s)

Introduces the student to the significance of wine in the dining experience. The class will study the wine-making process, wine grape varieties, health and legal issues of wine and include in-class evaluation of wine.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*HSPM 149 - Beer Appreciation*

3 unit(s)

Examining the history, business and economic impact of beer from its international brewery markets to the small craft beer distributors. Explore beer styles, regions, brewing processes and food pairings through weekly tastings and sensory applications of the principles of beer making.

**Grading:** Graded

*HSPM 152 - Hotel Catering and Banquet Management*

3 unit(s)

Overview of hotel group sales, convention services, catering sales and banquet operations. Learn tools and applications necessary to be successful in providing catering and banquet operations for hotel, restaurant, or corporate events.

**Prerequisite(s):** HSPM 1, HSPM 11, HSPM 12, HSPM 65, HSPM 102

**Grading:** Graded

*HSPM 154 - Revenue Management*

3 unit(s)

Formulating tactical pricing decisions to maximize revenues for hospitality organizations. Topics include: history of revenue management, reservation systems, forecasting demand, inventory control, cost analysis, pricing strategy, channel management, revenue management tactics, and applications.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N, HSPM 102

**Grading:** Graded

*HSPM 161 - Cruise Operations and Management*

3 unit(s)

This course examines the major aspects of cruise operations and management including history, global cruise market, economic significance, geography of cruising, itinerary design, anatomy of a cruise ship, operations, sales and marketing procedures, passenger services, event planning and management, and career opportunities.

**Prerequisite(s):** HSPM 1, HSPM 11, HSPM 65, HSPM 102

**Grading:** Graded

*HSPM 168 - Gaming Management*

3 unit(s)

Introduction to the casino's external environments and the casino's impact on the consumer and the local economy. Topics cover the history of gaming and gaming development, casino organization and operation, the mathematics of casino games, and casino management.

**Prerequisite(s):** HSPM 1 or instructor consent

**Grading:** Graded

*HSPM 175 - Entrepreneurship in Hospitality*

3 unit(s)

Explores the entrepreneurial opportunities available in the public, non-profit, and private sectors by examining the process of creating, planning, and managing hospitality, recreation, and tourism ventures, programs, and services.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N. Senior Standing.  
**Grading:** Graded

*HSPM 177 - Hospitality Service Management*

3 unit(s)

Develop skills in setting formal service standards and procedures to deliver customer experience and evaluate service quality for hospitality businesses. Topics include service experience design, psychological/social characteristics of customer satisfaction, service delivery processes, consumer/server encounters, service quality, and service recovery.

**Prerequisite(s):** HSPM 1, HSPM 11, HSPM 65, HSPM 102, HSPM 130, Senior Standing  
**Grading:** Graded

*HSPM 180 - Individual Studies*

1-3 unit(s)

Investigation of special problems, including research project and/or field experience.

**Prerequisite(s):** Instructor consent. Not available to Open University Students  
**Grading:** Credit/No Credit

*HSPM 184 - Directed Reading*

1-4 unit(s)

Directed reading in journals and books by authorities in Hospitality, Recreation, Tourism and related fields. Assessment by project(s) and/or paper(s).

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division standing, supervising instructor approval, and department chair consent. Not available to Open University Students.  
**Grading:** Credit/No Credit

*HSPM 186 - Strategic Management*

3 unit(s)

A capstone course focuses on the development and evaluation of management strategies with special emphasis on hospitality, recreation and tourism fields.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N, Senior Standing.  
**Grading:** Graded

*HSPM 191A - Internship Level 1*

2 unit(s)

Supervised professional broad-based work experience in hospitality management industry for a total of 200 hours.

**Prerequisite(s):** HSPM 1, HSPM 65, HSPM Major only. Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

*HSPM 191B - Internship Level 2*

3 unit(s)

Supervised professional in-depth work experience in hospitality management industry for total of 300 hours.

**Prerequisite(s):** HSPM 1, HSPM 65, BUS1 20 or BUS1 20N, HSPM Major only. Not available to Open University Students.

**Grading:** Credit/No Credit

*HSPM 192 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*HTEM 201 - Contemporary Issues*

3 unit(s)

Current trends and issues within major sectors of tourism industry. Includes transportation, lodging, food and beverage services, event management, and destination management. Focus on challenges faced by hospitality, tourism and event management organizations

**Grading:** Graded

*HTEM 202 - Marketing Research in HTEM*

3 unit(s)

Fundamental principles, processes, and roles of marketing research. Research design, research ethics, and qualitative and quantitative research methods. Research proposal development

**Grading:** Graded

*HTEM 212 - Strategic Use of IT*

3 unit(s)

Strategic application of information technologies for competitive advantage in hospitality, tourism and event management. Analysis, assessment, and ethics of IT.

**Grading:** Graded

*HTEM 213 - Sustainable Operations*

3 unit(s)

Concepts and principles of sustainable operations as applied to hospitality and tourism organizations. Socio-cultural, economic and environmental dimensions of sustainable development, positive and negative impacts of development, corporate social responsibility, and current trends and issues.

**Grading:** Graded

*HTEM 215 - International Luxury Hospitality Mgmt*

3 unit(s)

Overview of the power of luxury brands. Strategies and skills for managing international luxury brands. Historical

trends and marketing practices.

**Grading:** Graded

## Department of Kinesiology

**Office:** Spartan Complex, SPX 102

**Telephone:** 408-924-3010

**Email:** [kinesiology@sjsu.edu](mailto:kinesiology@sjsu.edu)

**Website:** [www.sjsu.edu/kinesiology](http://www.sjsu.edu/kinesiology)

### Professors

Theodore Butryn  
Gong Chen  
Craig J. Cisar  
KyungMo Han  
Matthew A. Masucci  
Peggy Plato  
Shirley H. M. Reekie  
Tamar Z. Semerjian, Chair  
Bethany Shifflett  
Emily H. Wughalter

### Associate Professors

Stanley B. Butler  
Jessica Chin  
Masaaki Tsuruike

### Assistant Professors

Cole Armstrong  
Seung Ho Chang  
Michael Dao  
David Daum  
JJ Hannigan  
Areum Jensen  
Li Jin  
Jihyun Lee  
Erin Siebert

## Overview

Kinesiology majors study human movement, the physical activity involved in work and play. Many of our graduates work as athletic directors, athletic trainers, coaches, teachers, personal trainers and sports managers; others continue on to medical school or receive advanced degrees in physical therapy. A charter member of the American Kinesiology Association, our department is a recognized leader in the CSU system as well as in kinesiology education and other allied health professions throughout the country. We offer bachelor's degrees in kinesiology,

athletic training, and teaching, and a master's degree in kinesiology that allows degree candidates to focus on athletic training, exercise physiology, sport management, sport studies, and other areas of specialization. We support several student organizations, including SPATO, the athletic training club; the Adapted Physical Activity Club, a student service organization that advocates for individuals with disabilities; the Pre-PT Club; and the Kinesiology Ambassadors' Club, which seeks to spread information about the field of kinesiology.

## Undergraduate

### Kinesiology, BS

Satisfactory completion of the requirements of the four-year major program in Kinesiology, offered by the Department of Kinesiology, leads to a BS degree. The program is based upon the discipline of kinesiology and stresses both theoretical and practical objectives. Five areas of specialization.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	18
Major Requirements	61
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

#### Major-Specific Graduation Requirements

Students in this major must complete all courses Requirements for the Major (All courses in Preparation, Core, Concentration/Specialization) with a "C- or better" to graduate. The following courses in Preparation of major must be passed with a "C or better": KIN 100W.

#### Kinesiology International Experience Requirement

To satisfy the Department of Kinesiology international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A

relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience](http://www.sjsu.edu/chahs/international-experience).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (18 units)

*BIOL 65 and BIOL 66 are not GE but meet Area B2 for Kinesiology majors*

- BIOL 65 - Human Anatomy 4 *unit(s)* (B2+B3) (BIOL 650 may also be used to meet this requirement. This course does not include a human cadaver lab.)
- BIOL 66 - Human Physiology 5 *unit(s)* (B2+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- KIN 100W - Writing Workshop 3 *unit(s)* (Z)
- Mathematical Concepts 3 *unit(s)* (Area B4)

## Major Requirements (61 units)

### Core Courses (23 units)

- KIN 70 - Introduction to Kinesiology 3 *unit(s)*
- KIN 155 - Exercise Physiology 3 *unit(s)*
- KIN 158 - Biomechanics 3 *unit(s)*
- KIN 175 - Measurement and Evaluation in Kinesiology 3 *unit(s)*
- KIN 185 - Senior Seminar 1 *unit(s)*

### Physical Activity Courses:

- Four activity courses from at least four different movement areas (In addition to university graduation requirement) 4 *unit(s)*

### Complete One Course From:

- KIN 160 - History of Sport and Physical Education 3 *unit(s)*
- KIN 161 - Philosophical Perspectives of Sport 3 *unit(s)*
- KIN 164 - Sociocultural Perspectives 3 *unit(s)*



## Complete One Course From:

- KIN 165 - Motor Development 3 unit(s)
- KIN 166 - Motor Learning 3 unit(s)

## Area of Specialization (38 units)

*Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. See Advisor for more details.*

Choose one area of study:

- Exercise and Fitness
- Rehabilitation Sciences
- Sport Management and Culture
- Inclusive Physical Activity in Communities
- Individualized Studies
- Transfer Curriculum Studies (students with AA-T)
- See department for approved clusters of electives.

## Total Units Required (120 units)

# Kinesiology, Preparation for Teaching, BS

This major is designed for students interested in teaching physical education in high school or middle school. The following course work satisfies San José State University's requirements for a BS in Kinesiology. The BS-Kinesiology, Preparation for Teaching, offered by the Department of Kinesiology is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree programs, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

Note: Students who wish to complete or have completed another major should consult with a Department of Kinesiology advisor who specializes in teacher preparation to determine requirements for single subject matter competency certification in physical education.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	18
Major Core Requirements	23

Concentration Requirements	38
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

Students in this major must complete all courses Required in the Major (All courses in Preparation, Core, Concentration/Specialization) with a "C- or better" to graduate. The following courses in Preparation of major must be passed with a "C or better": KIN 100W.

### **Kinesiology International Experience Requirement**

To satisfy the Department of Kinesiology international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience](http://www.sjsu.edu/chahs/international-experience).

### **Adapted Physical Education Added Authorization**

The Adapted Physical Education Added Authorization (APEAA) allows an educator to provide students with disabilities a specially designed physical education program as determined by the local level special education assessment.

The Kinesiology, Preparation for Teaching, BS is blended with the Adapted Physical Education Added Authorization program. Students take the adapted coursework as part of their undergraduate degree. If students earn a B or better in APE coursework, they are eligible for the APEAA.

Individuals who currently hold a valid Single Subject - Physical Education, Special Education, or Multiple Subject California teaching credential are eligible to complete the APEAA program. If interested, they should contact the program co-coordinators Dr. Jihyun Lee and Dr. Erin Siebert.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (41 units)**

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
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#### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
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#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
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## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (18 units)

- BIOL 65 - Human Anatomy 4 unit(s) (B2+B3) (BIOL 650 may also be used to meet this requirement. This course does not include a human cadaver lab.)
- BIOL 66 - Human Physiology 5 unit(s) (B2+B3)
- CHEM 30A - Introductory Chemistry 3 unit(s) (B1+B3)
- KIN 100W - Writing Workshop 3 unit(s) (Z)
- Mathematical Concepts 3 unit(s) (Area B4)

## Major Requirements (61 units)

### Core Courses (23 units)

- KIN 70 - Introduction to Kinesiology 3 unit(s)
- KIN 155 - Exercise Physiology 3 unit(s)
- KIN 158 - Biomechanics 3 unit(s)
- KIN 175 - Measurement and Evaluation in Kinesiology 3 unit(s)
- KIN 185 - Senior Seminar 1 unit(s)

### Physical Activity Courses:

- Four activity courses from at least four different movement areas (In addition to university graduation requirement) 4 unit(s)

### Complete One Course From:

- KIN 160 - History of Sport and Physical Education 3 unit(s)
- KIN 161 - Philosophical Perspectives of Sport 3 unit(s)
- KIN 164 - Sociocultural Perspectives 3 unit(s)

### Complete One Course From:

- KIN 165 - Motor Development 3 unit(s)
- KIN 166 - Motor Learning 3 unit(s)

## Major Required Courses (38 units)

- KIN 105 - Water Safety Instructor's Course 2 unit(s) (Age requirement, minimum of 18 years)
- KIN 107 - Adapted Aquatics 1 unit(s)
- KIN 156 - Introduction to Adapted Physical Activity 3 unit(s)
- KIN 159 - Sport and Adapted Activities 3 unit(s)
- KIN 168 - Psychology of Coaching 3 unit(s)
- KIN 170B - Field Experience-Teaching 1 unit(s) (Students will take KIN 170B multiple times for a total of 3 units)

- KIN 170CF - Fieldwork in Adapted Physical Education 2 *unit(s)*
- KIN 170CS - Seminar in Adapted Physical Education 1 *unit(s)*
- KIN 172 - Elementary School Programs, K-6 3 *unit(s)*
- KIN 173 - Intro to Teaching PE & Non-trad Sports 3 *unit(s)*
- KIN 174 - Assessment of Psychomotor Function 3 *unit(s)*
- KIN 178 - Management Practices for Physical Education Teachers 3 *unit(s)*
- KIN 179 - Design and Assessment of Movement Experiences 3 *unit(s)*
- 2 Additional Activity course (by advisement) 2 *unit(s)*

### Complete One Course From:

*Whichever wasn't taken in Core.*

- KIN 165 - Motor Development 3 *unit(s)*
- KIN 166 - Motor Learning 3 *unit(s)*

### Total Units Required (120 units)

## Master

### Kinesiology, Exercise Physiology Concentration, MA

The MA Kinesiology, concentration in Exercise Physiology program is offered by the Department of Kinesiology.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Required Courses (6 units)

- KIN 250 - Fundamentals of Quantitative Research 3 *unit(s)* (GWAR)
- KIN 251 - Fundamentals of Qualitative Research 3 *unit(s)* (GWAR)

#### Exercise Physiology Courses (9 units)

- KIN 255 - Advanced Exercise Physiology 3 *unit(s)*
- KIN 256 - Environmental Exercise Physiology 3 *unit(s)*
- KIN 285 - Internship in Kinesiology 1-3 *unit(s)*

#### Electives (9 units)

Electives determined based on a student's background, interests, and career goals

## Culminating Experience (6 units)

### Plan A (Thesis) (6 units)

- KIN 299 - Master's Thesis or Project 1-6 unit(s) (3 units KIN 299 in each of two consecutive semesters)
- Oral Defense

### Plan B (Project) (3 units)

- KIN 298 - Special Studies 3 unit(s) (3 additional units of electives selected in consultation with graduate advisor)
- Oral Defense

## Total Units Required (30 units)

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

## Kinesiology, MA

The MA Kinesiology program is offered by the Department of Kinesiology.

**Graduate Coordinator:** Dr. Ted Butryn

## Requirements for Admission to Classified Standing

The Department of Kinesiology requires the following of all applicants seeking admission to classified standing in the MA - Kinesiology in addition to meeting requirements for admission to the Graduate Division:

1. A baccalaureate degree with a major or a minor in Kinesiology or successful completion of a maximum of 12 units of foundation course work as assigned by the Graduate Coordinator or an assigned Academic Advisor.
2. A minimum grade point average of 3.0 in the last 60 semester units (or 90 quarter units) of work.
3. A fully completed CSU Apply Application, including the Statement of Purpose on the application. Statement of purpose should include a thoughtful narrative about the applicant's research interests, as the two core research methods courses necessitate that students think about their final culminating experiences upon acceptance into the program.
4. A GRE General Test score of at least 150 verbal and 141 quantitative.
5. Two (2) letters of recommendation mailed (or signed, scanned and emailed from a university or professional work account) directly to the Graduate Coordinator.

## Requirements for Admission to Conditionally Classified Standing

The graduate coordinator, in consultation with faculty, may approve admission of a student who meets the requirements for admission to the Graduate Division who has neither a major nor a minor in Kinesiology; has a grade point average below 3.0 in the last 60 semester units (or 90 quarter units), or scores below 150 verbal or 141 quantitative on the GRE General Test. The student may become eligible for admission to classified standing upon: satisfactory completion of prescribed undergraduate course deficiencies (foundation coursework), and/or completion of six units of graduate course work with a minimum grade point average of 3.0 in each course.

## Requirements for Admission to Candidacy for the MA Degree

General university admission requirements to candidacy for the Master of Arts degree are outlined in detail in the Catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). Following are additional requirements of the Department of Kinesiology for the Master of Arts degree.

Upon admission to the Graduate Division and prior to registration, each student should meet with a graduate academic advisor in the student's chosen concentration area. If there are any deficiencies in a student's undergraduate work, additional upper-division undergraduate foundation courses may be required. Foundation courses may not be counted for credit in the master's program. If foundation units are required, additional upper-division KIN units will be assigned by the graduate advisor.

A proposed program for the graduate objective selected should be developed as early as possible with the assistance of a graduate academic advisor in the student's concentration area.

The proposed program must be approved by the graduate advisor, the graduate coordinator, and the Office of Graduate Studies before the student is considered a candidate for the Master of Arts degree.

## Graduation Requirements

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Completing Requirements for the MA - Kinesiology

#### Plan A (with Thesis)

The purpose of this plan is to provide concentrated study in one of the subdisciplinary areas of Kinesiology. It is crucial that students electing Plan A identify the focus of their concentration early so that an appropriate thesis topic may be developed and a thesis committee selected.

Required courses are KIN 250, KIN 251, and KIN 299 (6 units). Concentration and Elective classes (18 units) from the student's selected concentration should be determined in consultation with a graduate academic advisor. A maximum of 9 units may be selected from outside the Department of Kinesiology.

### **Plan B (Non-Thesis)**

This plan is for students interested in producing a research-based creative project in Kinesiology. The plan requires a special project in place of a thesis.

Required courses are KIN 250, KIN 251, and KIN 298 (3 units).

Concentration and Elective classes (21 units) from the student's selected concentration should be determined in consultation with a graduate academic advisor. A maximum of 9 units may be selected from outside the Department of Kinesiology.

Note: The Graduate Athletic Training Education Program (GATEP) has a specific course structure and a separate application process.

## **Master's Requirements (30 units)**

*At least 15 units must be 200-level courses.*

### **Plan A (with Thesis) (30 units)**

#### **Required Courses (6 units)**

- KIN 250 - Fundamentals of Quantitative Research 3 *unit(s)* (GWAR)
- KIN 251 - Fundamentals of Qualitative Research 3 *unit(s)* (GWAR)

#### **Electives (18 units)**

9 units maximum from outside Kinesiology

#### **Culminating Experience (6 units)**

- KIN 299 - Master's Thesis or Project 1-6 *unit(s)*

### **Plan B (Non-Thesis) (30 units)**

#### **Required Courses (6 units)**

- KIN 250 - Fundamentals of Quantitative Research 3 *unit(s)* (GWAR)
- KIN 251 - Fundamentals of Qualitative Research 3 *unit(s)* (GWAR)

#### **Electives (21 units)**

9 units maximum from outside Kinesiology



### Culminating Experience (3 units)

- KIN 298 - Special Studies 3 *unit(s)*

### Total Units Required (30 units)

## Kinesiology, Sport Management Concentration, MA

The MA Kinesiology, concentration in Sport Management program is offered by the Department of Kinesiology.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Required Course (6 units)

- KIN 250 - Fundamentals of Quantitative Research 3 *unit(s)* (GWAR)
- KIN 251 - Fundamentals of Qualitative Research 3 *unit(s)* (GWAR)

#### Additional Sport Management Courses (15 units)

- KIN 280 - Advanced Fieldwork in Sport Management 1-3 *unit(s)*
- KIN 281 - Legal and Ethical Aspects of Sport 3 *unit(s)*
- KIN 282 - Marketing and Social Aspects of Sport 3 *unit(s)*
- KIN 283 - Management, Leadership and Communication in Sport 3 *unit(s)*
- KIN 284 - Financial Aspects of Sport 3 *unit(s)*

#### Electives (3-6 units)

#### Culminating Experience (3-6 units)

#### Plan A (Thesis) (6 unit)

- KIN 299 - Master's Thesis or Project 1-6 *unit(s)*

#### Plan B (Non-Thesis) (3 units)

- KIN 298 - Special Studies 3 *unit(s)*

### Total Units Required (30 units)

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

## **Kinesiology, Sport Studies Concentration, MA**

The MA Kinesiology, concentration in Sport Studies program is offered by the Department of Kinesiology.

## **Graduation Writing Assessment Requirement**

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### **Master's Requirements (30 units)**

#### **Required Course (6 units)**

- KIN 250 - Fundamentals of Quantitative Research *3 unit(s) (GWAR)*
- KIN 251 - Fundamentals of Qualitative Research *3 unit(s) (GWAR)*

#### **Additional Sports Studies Courses (6 units)**

- KIN 264 - Sport Sociology *3 unit(s)*
- KIN 267 - Advanced Sport Psychology *3 unit(s)*

#### **Electives (12-15 units)**

Electives determined based on a student's background, interests, and career goals

#### **Culminating Experience (3-6 units)**

#### **Plan A (Thesis) (6 unit)**

- KIN 299 - Master's Thesis or Project *1-6 unit(s)*

#### **Plan B (Non-Thesis) (3 units)**

- KIN 298 - Special Studies *3 unit(s)*

#### **Total Units Required (30 units)**

Both Plan A (Thesis) and Plan B (Project) require a final oral defense.

## **Minor**

## Kinesiology Minor

Through advisement, students can develop the electives that help to focus their minor program of study. Contact the department for academic advisement.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

- KIN 70 - Introduction to Kinesiology 3 *unit(s)*

### Complete One Course From:

- KIN 160 - History of Sport and Physical Education 3 *unit(s)*
- KIN 161 - Philosophical Perspectives of Sport 3 *unit(s)*
- KIN 164 - Sociocultural Perspectives 3 *unit(s)*
- KIN 167 - Sports Psychology 3 *unit(s)*
- KIN 168 - Psychology of Coaching 3 *unit(s)*

### Complete One Course From:

- KIN 155 - Exercise Physiology 3 *unit(s)*
- KIN 158 - Biomechanics 3 *unit(s)*
- KIN 165 - Motor Development 3 *unit(s)*
- KIN 166 - Motor Learning 3 *unit(s)*
- Three activity courses from three different movement areas approved by the advisor; these courses are in addition to the two unit university graduation requirement 3 *unit(s)*
- Kinesiology upper division electives 6 *unit(s)*

### Total Units Required (18 units)

## Added Authorization

### Adapted Physical Education Added Authorization

The Adapted Physical Education Added Authorization (APEAA) allows an educator to provide students with disabilities a specially designed physical education program as determined by the local level special education assessment.

The Kinesiology, Preparation for Teaching, BS is blended with the Adapted Physical Education Added Authorization program. Students take the adapted coursework as part of their undergraduate degree. If students earn a B or better in APE coursework, they are eligible for the APEAA.

Individuals who currently hold a valid Single Subject - Physical Education, Special Education, or Multiple Subject California teaching credential are eligible to complete the APEAA program. If interested, they should contact the program co-coordinators Dr. Jihyun Lee and Dr. Erin Siebert.

## Authorization Requirements (13 units)

- KIN 107 - Adapted Aquatics 1 unit(s)
- KIN 156 - Introduction to Adapted Physical Activity 3 unit(s)
- KIN 159 - Sport and Adapted Activities 3 unit(s)
- KIN 174 - Assessment of Psychomotor Function 3 unit(s)
- KIN 170CF - Fieldwork in Adapted Physical Education 2 unit(s)
- KIN 170CS - Seminar in Adapted Physical Education 1 unit(s)

## Total Units Required (13 units)

### *KIN 1 - Adapted Physical Activities*

1 unit(s)

Structured individualized physical activities to enhance physical/motor fitness and develop an active, health-oriented lifestyle for students unable to participate in the general activity program.

*Satisfies PE: Physical Education*

**Grading:** Graded

### *KIN 2A - Beginning Swimming*

1 unit(s)

This course is designed for the non-swimmer and beginning swimmer. It is assumed that all students enrolled in the class have had little or no experience in learning the basic skills of swimming. The course is designed to instruct the student in the basic skills necessary to enable him/her to swim safely in deep water. There are no prerequisites for the course.

*Satisfies PE: Physical Education*

**Grading:** Graded

### *KIN 2B - Intermediate Swimming*

1 unit(s)

This course is designed to meet the needs of students who have satisfactorily completed the skills involved in beginning swimming.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

### *KIN 2C - Advanced Swimming*

1 unit(s)

This course is designed to refine and extend the development of advanced skills in swimming.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Intermediate level or its equivalent.

**Grading:** Graded

*KIN 3 - Water Polo*

1 unit(s)

Fundamental skills, techniques, strategies, rules, and knowledge necessary to safely and correctly play water polo.

**Prerequisite(s):** Beginning level swimming proficiency

**Grading:** Graded

*KIN 7 - Mexican Folklorico Dance*

1 unit(s)

Introduction to Mexican Folklorico Dance. Focus is on the development of fundamental Mexican Folk dance skills and knowledge. Review of the interrelationship of dance culture to origins, holidays, people, and historical context. Students learn danzas & Mestizo dances from various states and regions of Mexico (e.g. Veracruz Huasteca, Tamaulipas Norte) and indigenous community (e.g. Oaxaca Mixe) dance categories.

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 4 units.*

**Grading:** Graded

*KIN 8 - Skin and SCUBA Diving*

2 unit(s)

Both skin and SCUBA diving skills for enjoyment and to understand dangers connected with the sport. Only one unit can be applied for the physical education graduation requirement.

*Misc/Lab: Lecture 1 hour/activity 3 hours.*

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 2C (or equivalent).

**Grading:** Graded

*KIN 9A - Beginning Sailing*

1 unit(s)

Basic skills and safety knowledge in small boats for those with little or no sailing experience

*Satisfies PE: Physical Education*

**Prerequisite(s):** Student must be able to swim 100 yards without stopping, tread water for 5 minutes, and exit from an overturned dinghy. Students will be tested for this in the SPX pool.

**Grading:** Graded

*KIN 10A - Beginning Kayaking*

1 unit(s)

Beginning skills and knowledge for those with little or no experience of flat water kayaking. The emphasis will be on safe operation at all times.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Students must be able to swim 100 yards without stopping, tread water for 5 minutes, and exit from an overturned kayak. Students will be tested for this in the SPX pool.

**Grading:** Graded

*KIN 11A - Beginning Rowing*

1 unit(s)

Basic skills and knowledge for those with little or no experience of sweep rowing or sculling. Initial classes will be on indoor rowing machines, then eight-oared boats will be used. Students will learn both how to row and how to cox; improvement of strength / fitness is central.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Swim 100 yards without stopping; tread water for 5 minutes; don lifejacket in the water. Tested in pool.

**Grading:** Graded

*KIN 13A - Beginning Rugby*

1 unit(s)

This course is designed to familiarize the student with the rules, skills and basic concepts of modern Rugby Union Football. The class will equip the student to be an informed rugby spectator and/ or participant.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 14A - Beginning Volleyball*

1 unit(s)

This course provides the student with the opportunity to learn and develop the basic rules and skills of volleyball, the 6-6 offense and the defense against the 6-6 offense.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 14B - Intermediate Volleyball*

1 unit(s)

This course provides the intermediate student with the opportunity to refine and perfect the basic volleyball skills and to master individual positions when using the 6-2 offense and the defense against the offense.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 14C - Advanced Volleyball*

*1 unit(s)*

This course is designed to teach advanced skills, principles and techniques necessary and fundamental to understanding and playing volleyball.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Intermediate level or its equivalent.

**Grading:** Graded

*KIN 15A - Beginning Basketball*

*1 unit(s)*

This course is designed to assist students in the development of fundamental skills necessary for effective involvement in playing the game of basketball.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 15B - Intermediate Basketball*

*1 unit(s)*

This course provides the intermediate student with the opportunity to refine and perfect basic basketball skills.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 18A - Beginning Handball*

*1 unit(s)*

This course is focused on the development of fundamental handball skills, basic tactics, simple strategies, etiquette and sportsmanship, rules, and their application in beginning games.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 18B - Intermediate Handball*

*1 unit(s)*

Course focuses on improving the quality of fundamental handball skills, learning intermediate handball skills/drills and application, developing intermediate handball tactics and strategies, good sportsmanship, and playing more effective single and double games in different formats.

**Grading:** Graded

*KIN 19A - Beginning Soccer*

1 unit(s)

This course is designed to introduce students to the game of soccer, and to provide students with the fundamental ability and knowledge needed to enjoy this game as players and as spectators.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 19B - Intermediate Soccer*

1 unit(s)

Designed for students with previous soccer experience to refine technical skills, enhance offensive and defensive tactical awareness, learn various strategy and game philosophies, and improve conditioning. Develop a greater understanding of the rules of the game with an emphasis on the application of skills and strategy in game play

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 19A (or equivalent) or Instructor Consent

**Grading:** Graded

*KIN 20A - Beginning Badminton*

1 unit(s)

This course is focused on the development of fundamental badminton skills, basic tactics, simple strategies, etiquette, rules, and their application in single and double games.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 20B - Intermediate Badminton*

1 unit(s)

This course is focused on improving the quality of fundamental badminton skills, learning intermediate badminton skills and their application, developing intermediate badminton tactics and strategies, good sportsmanship, and playing more effective single and double games in elimination, round robin, and team competitions.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU beginning badminton class or have equivalent skills/knowledge.

**Grading:** Graded

*KIN 20C - Advanced Badminton*

1 unit(s)

This course is focused on improving the quality of fundamental and intermediate badminton skills, learning advanced skills and their application, developing advanced badminton tactics and strategies, good sportsmanship, and playing



high level games.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU intermediate class or show equivalent skills/knowledge.

**Grading:** Graded

*KIN 21A - Beginning Tennis*

*1 unit(s)*

This course is designed to give students a basic understanding of the game of tennis. Students will be given a chance to learn through lecture, demonstration, drilling and match play.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 21B - Intermediate Tennis*

*1 unit(s)*

This course is focused on improving the quality of fundamental tennis skills, learning intermediate tennis skills and drills and application, developing intermediate tennis tactics and strategies, establishing proper manners, and playing more effective single and double games in elimination, round robin, and team competitions.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU beginning class or have equivalent skills/knowledge

**Grading:** Graded

*KIN 21C - Advanced Tennis*

*1 unit(s)*

This course is focused on improving the quality (power, speed, control, and placement) of basic and intermediate tennis skills, learning advanced skills and their application, developing advanced tennis tactics and strategies, good sportsmanship, and playing high level games.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU intermediate class or have equivalent skills/knowledge

**Grading:** Graded

*KIN 22A - Beginning Racquetball*

*1 unit(s)*

This course is focused on the development of fundamental racquetball skills, basic tactics, simple strategies, etiquette, rules, and their application in single and double games.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 22B - Intermediate Racquetball*

1 unit(s)

This course is focused on improving the quality of fundamental racquetball skills, learning intermediate racquetball skills/drills and application, developing intermediate racquetball tactics and strategies, good sportsmanship, and playing more effective single and double games in different formats.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU beginning class or have equivalent skills/knowledge

**Grading:** Graded

*KIN 23A - Beginning Archery*

1 unit(s)

This course is designed to introduce the student to the basic skills and concepts, provides the opportunity to learn, practice and analyze correct shooting form and to participate in a variety of archery tournaments.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 23B - Intermediate Archery*

1 unit(s)

This course builds upon beginning level skills and knowledge and provides the opportunity to shoot a variety of different archery rounds.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 24A - Beginning Bowling*

1 unit(s)

This course is designed to give students an understanding of the sport of bowling and develop fundamental bowling skills.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 24B - Intermediate Bowling*

1 unit(s)

This course is designed to meet the needs of students who have satisfactorily completed the skills in beginning bowling. The course will add more advanced theory and techniques.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 24C - Advanced Bowling*

1 unit(s)

Designed for students who are skilled bowlers. A brief review of bowling fundamentals and principles will be followed by in depth lectures on application of principles. Drills will be used to improve skills.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 24B and a bowling average of 150 or better; alternative would be "scratch" league or a low handicap league plus instructor consent.

**Grading:** Graded

*KIN 25A - Beginning Golf*

1 unit(s)

Designed for those who have never played golf or who have played very little and have had no basic formal instruction. Provides the student with a sound set of fundamentals to prepare for further instruction, if desired.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 25B - Intermediate Golf*

1 unit(s)

Development of intermediate golf skills and knowledge with a focus on technique that facilitates the acquisition of consistent intermediate level performance.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 25A or equivalent.

**Grading:** Graded

*KIN 25C - Advanced Golf*

1 unit(s)

This course is designed for people who might score from the high seventies to the high eighties on a regular basis.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Intermediate level or its equivalent.

**Grading:** Graded

*KIN 27A - Beginning Table Tennis*

1 unit(s)

This course is focused on the development of fundamental table tennis skills, basic tactics, simple strategies, etiquette, rules, and their application of in single and double games.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 27B - Intermediate Table Tennis*

1 unit(s)

This course is focused on improving the quality of fundamental table tennis skills, learning intermediate table tennis skills and drills and their application, developing intermediate tactics and strategies, good sportsmanship, and playing more effective single and double games in elimination, round robin, and team competitions.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Completed SJSU beginning class or have equivalent skills/knowledge

**Grading:** Graded

*KIN 28A - Beginning Gymnastics*

1 unit(s)

This course is designed to develop the student's awareness and performance of basic skills in gymnastics.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 29 - Cardio Kickboxing*

1 unit(s)

Cardio Kickboxing is a non-contact aerobic conditioning activity combining punches, kicks, traditional aerobic skills, and fitness activities. The course is designed to enhance cardiovascular endurance, muscular strength, and muscular endurance.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 30 - Pilates*

1 unit(s)

Pilates employs an established exercise protocol designed to develop core strength, flexibility, posture, and range of motion. The course covers the fundamentals of a Pilates workout with an emphasis on breathing, alignment, neutral spine, and core stability.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 31 - Body Sculpting*

1 unit(s)

Body sculpting employs exercise augmented with moderate weights to enhance fitness. The course is designed to improve muscle tone and endurance, flexibility, balance, and core stability.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 32 - Aerobics*

1 unit(s)

Aerobics incorporates exercise and music, using large, continuous, rhythmic movements to elevate the heart rate and produce a training effect. The course is designed to improve muscle tone and enhance cardiorespiratory endurance.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 33 - Advanced Aerobic Activities*

1 unit(s)

Aerobic activities incorporating high intensity interval training, circuit training, cardio kickboxing, power step, and resistance training. This course is designed to enhance cardiorespiratory endurance, muscular strength and muscular endurance.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 32 or KIN 34 or instructor consent.

**Grading:** Graded

*KIN 34 - Step Training*

1 unit(s)

Step training is a low-impact aerobic conditioning activity designed to enhance cardiorespiratory endurance, muscular strength, and muscular endurance.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 35A - Beginning Weight Training*

1 unit(s)

This course is designed to teach the basic concepts of weight training for muscular strength and endurance. Its goal is to provide students with knowledge about the principles involved in weight training and the health-related components of fitness through a variety of exercises.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 35B - Intermediate Weight Training*

1 unit(s)

This course is designed for individuals with prior training experience and involves higher level exercises. Students will be exposed to a wide variety of machine as well as free weight exercises and will then design a program based on individual needs.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 35C - Advanced Weight Training*

1 unit(s)

This course is designed for students who have had prior class experience in resistive exercise training. Students who have not taken these classes must demonstrate adequate knowledge of lifting technique, terminology and weight room etiquette.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Intermediate level or its equivalent.

**Grading:** Graded

*KIN 37 - Fitness Walking*

1 unit(s)

Fitness walking is a low-impact conditioning activity designed to develop cardiovascular fitness.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 38 - Beginning Jogging*

1 unit(s)

Jogging is a moderate-impact activity designed to improve cardiovascular fitness.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 40A - Topics in Modern Dance I*

2 unit(s)

Training experience in the field of beginning modern dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*KIN 41A - Topics in Ballet I*

2 unit(s)

Training experience in the field of beginning ballet dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*KIN 42A - Topics in Jazz Dance I*

*2 unit(s)*

Training experience in the field of beginning Jazz dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*KIN 45A - Beginning Lindy Hop and Night Club Swing*

*1 unit(s)*

This course is focused on the development of fundamental Swing dance skills and knowledge. Steps, technique, and styling will be drawn from Lindy Hop, Jitterbug, Street Swing, Jive and Triple-Time Swing dances.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 46A - Beginning Social Dance*

*1 unit(s)*

This course is focused on the development of fundamental social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 46B - Intermediate Social Dance*

*1 unit(s)*

This course is focused on the development of intermediate level social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 46A or KIN 48A, or equivalent dance experience.

**Grading:** Graded

*KIN 47A - Beginning West Coast Swing*

1 unit(s)

Designed to improve students' understanding of West Coast Swing dancing and to improve fundamental dance skills common to the dance

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 48A - Beginning Latin Dance*

1 unit(s)

This course is focused on the development of fundamental Latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 48B - Intermediate Latin Dance*

1 unit(s)

This course is focused on the development of intermediate level latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 46A or KIN 48A, or equivalent dance experience.

**Grading:** Graded

*KIN 49A - Topics in Tap Dance I*

1 unit(s)

Training and experience in the field of beginning tap dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 3 hours.*

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*KIN 49B - Topics in Tap Dance II*

1 unit(s)

Training and experience in the field of intermediate tap dance with varied topics. Can be repeated for up to 2 units of credit when topic changes.

*Misc/Lab: Activity 3 hours*

*Course may be repeated for credit for up to 2 units.*



**Prerequisite(s):** DANC 49A (or equivalent).

**Grading:** Graded

*KIN 50 - Tai Chi (Non-Combative)*

*1 unit(s)*

Emphasis on knowledge and skill, development of the standard Simplified Tai Chi Form and applications of Tai Chi for life. It is assumed that students enrolled in the class have had little or no experience in Tai Chi.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 51A - Beginning Aikido*

*1 unit(s)*

This course is focused on the philosophy, history, and basic skills related to the Japanese-derived martial art of Aikido.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 51B - Intermediate Aikido*

*1 unit(s)*

This course is focused on the development of intermediate level skills and knowledge related to the Japanese-derived martial art of Aikido. It builds upon the basic movement patterns and falling skills introduced in the beginning class.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 51A or equivalent Aikido skills and experience.

**Grading:** Graded

*KIN 52A - Beginning Judo*

*1 unit(s)*

This course is focused on development the fundamental skills and knowledge related to Judo. Included are basic groundwork and throwing techniques.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 52B - Intermediate Judo*

*1 unit(s)*

This course is focused on development of intermediate level ground and throwing skills and learning in-depth strategies, philosophy, and culture related to Judo. It builds upon the basic ukemi, newaza, and tachiwaza techniques learned in the beginning class.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 52A or equivalent judo skills and experience.

**Grading:** Graded

*KIN 52C - Competitive Judo*

*1 unit(s)*

Prepares students to use Judo techniques in competitive tournaments. The course will offer intermediate and advanced skills (standing, mat and falling techniques) and strategies to improve competitiveness.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 52A or KIN 52B, and/or instructor consent.

**Grading:** Graded

*KIN 53A - Beginning Karate*

*1 unit(s)*

This course is focused on development of fundamental skills and knowledge related to Karate. Included are basic kicking, punching, and blocking techniques.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 53B - Intermediate Karate*

*1 unit(s)*

This course is focused on development of intermediate level skills and knowledge related to Karate. It builds upon the fundamental skills and techniques developed in the beginning class.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 53A or equivalent karate skills and experience

**Grading:** Graded

*KIN 54A - Beginning Tae Kwon Do*

*1 unit(s)*

This course is focused on development of fundamental skills and knowledge related to Tae Kwon Do. Included are basic patterns (poomse), kicking and one-step defenses.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 54B - Intermediate Tae Kwon Do*

*1 unit(s)*

This course is focused on development of intermediate level skills and knowledge related to Tae Kwon Do. It builds

upon the fundamental skills and techniques developed in the beginning Tae Kwon Do class.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 54A or equivalent Tae Kwon Do skills and experience.

**Grading:** Graded

*KIN 55A - Beginning Self-Defense*

*1 unit(s)*

This course is focused on development of fundamental skills and knowledge related to self defense. Included are mental and physical self-defense skills and techniques applicable under a variety of conditions

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 58A - Introductory Brazilian Jiu-Jitsu*

*1 unit(s)*

Development of the essential skills and principles of Brazilian jiu-jitsu practice. Included are the basic escapes, sweeps, and submissions from the most common positions.

**Grading:** Graded

*KIN 61A - Beginning Hatha Yoga*

*1 unit(s)*

In this course the student will learn the correct movements, postures and sequence used in traditional Hatha Yoga.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 61B - Intermediate Hatha Yoga*

*1 unit(s)*

Further exploration of the theories and practices of Hatha Yoga encompassing the second level series of traditional intermediate Hatha Yoga postures, breathing exercises, and relaxation techniques.

*Satisfies PE: Physical Education*

**Prerequisite(s):** Beginning level or its equivalent.

**Grading:** Graded

*KIN 62A - Beginning Ice Skating*

*1 unit(s)*

A beginning ice skating course that covers the skills identified by the International Ice Skating Association (IISA).

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 63A - Beginning Hiking and Backpacking*

*1 unit(s)*

An introductory course designed to impact skills such as topographical map reading, navigation and hiking. The emphases is on logistics and operations of adventure excursions and fitness in various wilderness environments.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 63B - Intermediate Hiking and Backpacking*

*1 unit(s)*

Intermediate course designed for the student with previous hiking or outdoor adventure experience. Students are responsible for planning, packing and leading at intervals, the entire group on a 3-day overnight hiking and backpacking excursion. Students will learn topographical map, compass reading, fundamental hiking and trip planning.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 63A or instructor approval

**Grading:** Graded

*KIN 64A - Beginning Mountaineering*

*1 unit(s)*

Fundamental mountain climbing techniques for a beginning level climber which includes face climbing, chimney climbing, traversing and rappelling.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 65A - Beginning Ice Hockey*

*1 unit(s)*

Basic skills, techniques, strategies and rules of ice hockey. No previous skating is required but the ability to skate is highly recommended.

*Satisfies PE: Physical Education*

**Grading:** Graded

*KIN 66 - Fit for Life!*

*2 unit(s)*

Concepts of fitness and wellness, focusing on the importance of regular physical activity for health and well-being throughout the lifespan.

**Prerequisite(s):** Course is only open to students in approved high unit majors that have received a waiver for the physical education graduation requirement.

**Corequisite(s):** Enrollment in a college level physical education activity course for academic credit at a CCC or CSU.

**Grading:** Graded

*KIN 68 - Visual Representations of Sport in Popular Culture*

3 unit(s)

Critical examination of visual representations of sport in popular culture. Facilitate a deeper understanding and appreciation of the artistic qualities that exemplify works of human creativity as related to sport.

*Satisfies C1: Arts*

**Grading:** Graded

*KIN 69 - Stress Management: A Multidisciplinary Perspective*

3 unit(s)

The stress process and its relation to health, disease, lifestyle, and the sociocultural environment. Physiological, psychological, sociological, and environmental parameters of stress across the lifespan, emphasizing university resources and stress management strategies to enhance academic, personal, and social development.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*KIN 70 - Introduction to Kinesiology*

3 unit(s)

Explores the broad spectrum of kinesiology as an academic discipline, fundamental concepts and meaning of movement/physical activity, diversity of humans as moving beings, professional/career options, current issues, personal characteristics/professional responsibilities, Kinesiology at SJSU; initiates professional portfolio.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Grading:** Graded

**Note(s):** Required for KIN majors and minors only.

*KIN 80 - Individual Movement Studies*

1 unit(s)

Individual work related to motor performance and activity made by special arrangement.

*Misc/Lab: Activity 2 hours.*

**Grading:** Credit/No Credit

*KIN 92 - International Program Studies*

1-6 unit(s)

*Satisfies PE: Physical Education*

**Grading:** Mixed Grading

*KIN 100W - Writing Workshop*

3 unit(s)

Advanced skills in writing. Development of writing style and creation of organized, persuasive and analytical prose. Generalized and specialized forms of writing.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** KIN 70 for major/minors only or instructor consent. A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Major/Minor: Kinesiology. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*KIN 101 - Sport in America*

3 unit(s)

The role of sport (recreational and professional) as a social, political and economic institution in American society. Critical examination of contemporary issues affecting sport and sport involvement by diverse cultural groups within American society.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not open to Kinesiology majors for major/minor credit.

*KIN 105 - Water Safety Instructor's Course*

2 unit(s)

Designed to teach the basic concepts, skills and knowledge for successful teaching in the American Red Cross aquatics program. The content and requirements are in accordance with the American Red Cross and the criterion set forth by the organization.

*Misc/Lab: Lecture 1 hour/activity 2 hours.*

**Prerequisite(s):** Minimum age of 18.

**Grading:** Graded

*KIN 106 - Advanced SCUBA and Aquatic Technology*

3 unit(s)

Underwater navigation, light salvage, searches, biological sampling, communications, weightless simulations, construction problem solving and lighting.

*Misc/Lab: Lecture 1 hour/activity 4 hours.*

*Satisfies PE: Physical Education*

**Prerequisite(s):** NAUI SCUBA certification (or equivalent).

**Grading:** Graded

*KIN 107 - Adapted Aquatics*

*1 unit(s)*

Theories, techniques and practices in the instruction of persons with disabilities as they function in the aquatic environment.

*Misc/Lab: Activity 2 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 111 - Sport & Movement in a Global Context*

*3 unit(s)*

Human expression through sport, games, and movement in cultures outside the US, and how those expressions have changed over time. Exploration of how sporting traditions in cultures outside the US have influenced US culture and society.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*KIN 111ITL - Sport & Movement in a Global Context: International Experience*

*3 unit(s)*

Human expression through sport, games, and movement in cultures outside the U.S. and how those expressions have changed over time. Exploration of how sporting traditions outside the U.S. have influenced US culture and society.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*KIN 145A - Physical Activity for Older Adults*

3 unit(s)

Analyses of development and implementation processes of exercise programs for older adults.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** KIN 70 or instructor consent

**Grading:** Graded

*KIN 145B - Physical Activity for Older Adults*

3 unit(s)

Analyses of development and implementation processes of exercise programs for older adults.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** KIN 70 or instructor consent

**Grading:** Graded

*KIN 147 - Biomechanical Assessment of Movement*

3 unit(s)

This class is designed to assist the student in becoming familiar and proficient with the Biomechanical methods and equipment for assessing human movement performance characteristics with the following goals: improving movement effectiveness, preventing injuries, and assessing rehabilitation progress.

*Misc/Lab: Lecture 3 hours/Lab 9 hours*

**Prerequisite(s):** KIN 158

**Grading:** Graded

*KIN 149 - Child Health and Physical Activity*

3 unit(s)

An integrative approach to understanding the multiple factors that impact children's health and physical fitness and that influence the development of lifelong habits. Emphasis is on the inter-relationships between health and fitness and cognitive, social, and emotional well-being.

**Prerequisite(s):** CHAD 60 or instructor consent.

**Grading:** Graded

*KIN 151 - Sports and Fitness Marketing*

3 unit(s)

Course is designed to apply marketing principles and processes to the sport and fitness industry. Content will focus on the sport and fitness product, consumer behavior, consumer satisfaction/dissatisfaction, and the customer experience in sport and fitness organizations.

**Prerequisite(s):** KIN 70

**Grading:** Graded

*KIN 152 - Theory of Sport and Fitness Management*



3 unit(s)

Basic theory of sport management. Topics include sport management and organizational skills; sport marketing and sales; sport communication; sport finance, economics, law and governance.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 153 - Sport Facility and Event Management*

3 unit(s)

Provide students with the skills necessary to effectively manage sport and fitness facilities and events.

**Prerequisite(s):** KIN 70; and KIN 152 for sports management emphasis. Open only to declared KIN majors/minors, or instructor consent.

**Grading:** Graded

*KIN 154A - Instrumentation in Exercise Physiology and Biomechanics*

3 unit(s)

Familiarity and proficiency with methods and instruments of assessing physiological and biomechanical characteristics of human performance.

*Misc/Lab: Lecture 1 hour/activity 4 hours.*

**Prerequisite(s):** KIN 70 (or equivalent) for majors/minors only or instructor consent; KIN 70; KIN 155; KIN 158 with grades of 'C-' or better in each.

**Grading:** Graded

*KIN 154B - ECG Interpretations and ["Graded"] Exercise Testing*

3 unit(s)

Theoretical background and practical proficiency in the methods and instruments of electrocardiogram interpretations and ["Graded"] exercise testing.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** KIN 70 (or equivalent) for majors/minors only or instructor consent; KIN 70; KIN 155 with grades of 'C-' or better in each.

**Grading:** Graded

*KIN 155 - Exercise Physiology*

3 unit(s)

Physiological responses and adaptations of the human organism to physical activity.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** KIN 70; BIOL 66 and CHEM 30A with a grade of 'C-' or better in each; approved GE Math Concept course. Open only to declared KIN majors/minors, or instructor consent.

**Grading:** Graded

*KIN 156 - Introduction to Adapted Physical Activity*

3 unit(s)

Focus on attitude change as well as knowledge, comprehension and application of human movement principles related to individuals with disabling conditions.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 157 - Physiological Assessment*

3 unit(s)

Use of exercise physiology instrumentation to assess physiological characteristics of human performance, interpret results, and implement corrective strategies, when appropriate.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** CHEM 30A, GE Math, BIOL 66, KIN 70 (C- or better grade), KIN 155 (C- or better grade)

**Grading:** Graded

*KIN 158 - Biomechanics*

3 unit(s)

Relationship of structural and mechanical principles of the musculoskeletal system to the analysis of human performance.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** KIN 70; BIOL 65 with a grade of 'C-' or better; approved GE Math Concept Course. Open only to declared KIN majors/minors, or instructor consent.

**Grading:** Graded

*KIN 159 - Sport and Adapted Activities*

3 unit(s)

Principles of kinesiology for adapting sport and activity for individuals with disabling conditions.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 160 - History of Sport and Physical Education*

3 unit(s)

Historical survey of physical education and sport from primitive societies through classical and medieval periods to the nineteenth and twentieth centuries. Development of sport, physical education and recreation in the U.S. and factors affecting their growth.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 161 - Philosophical Perspectives of Sport*

3 unit(s)

Emphasis on systems of philosophy, aesthetic and moral considerations, metaphysical fitness and contemporary issues. Review of leading human movement theorists.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 162 - Advanced Fitness Assessment and Exercise Prescription*

3 unit(s)

In-depth study and analysis of the principles and techniques used in the assessment of physical fitness and health as well as the design of conditioning programs and physical activities.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** KIN 70 (or equivalent) for majors/minors only and KIN 155, or instructor consent. Grade of 'C-' or better in KIN 70 and KIN 155.

**Grading:** Graded

*KIN 163 - Physical Fitness and Nutrition*

3 unit(s)

Use of scientific principles, scientific investigation, and current technological advances to assess the relationship between diet, physical fitness, and disease. Examine scientific literature to evaluate the effects of nutritional intervention on exercise performance.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*KIN 164 - Sociocultural Perspectives*

3 unit(s)

Sociocultural processes of sport and play in contemporary society. The study of phenomena arising out of group relations within the realm of kinesiology.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent or lower division social science core GE.

**Grading:** Graded

*KIN 165 - Motor Development*

3 unit(s)

Motor development of the individual from birth to maturity. Emphasis upon motor behavior, needs, capacities and interests.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent. .

**Grading:** Graded

*KIN 166 - Motor Learning*

3 unit(s)

Concepts, principles and theories of motor learning with application to physical activities.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; BIOL 66 with a grade of 'C-' or better.

**Grading:** Graded

*KIN 167 - Sports Psychology*

3 unit(s)

Psychological aspects of sports, including the value of sports, psychological factors involved in competitive as well as non-competitive athletic activities and the role of sports psychologists.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*KIN 168 - Psychology of Coaching*

3 unit(s)

Social, clinical, child, measuring, industrial, personality and organizational psychology and the practical application of the material to coaching.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Graded

*KIN 169 - Diversity, Stress and Health*

3 unit(s)

Impact of structured inequalities on stress and health of diverse populations. Analysis of physiological/psychosocial health factors related to diversity, as well as behavioral interventions and social actions that mediate stress and optimize health and social justice.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*KIN 170B - Field Experience-Teaching*

1 unit(s)

Practical experiences to satisfy certification requirement in off-campus or field-based programs. May be repeated for a maximum of 4 units.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent. Concurrent enrollment in KIN 172, KIN 173, KIN 178, or KIN 179.

**Grading:** Credit/No Credit

*KIN 170CF - Fieldwork in Adapted Physical Education*

2 unit(s)

Fieldwork for supervised experiences in adapted physical education at selected public and private agencies.

2 hours clinical.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; KIN 156.

**Corequisite(s):** KIN 172 or KIN 178 or KIN 179.

**Grading:** Credit / No Credit

*KIN 170CS - Seminar in Adapted Physical Education*

1 unit(s)

Seminar for supervised experiences in adapted physical activity at selected public and private agencies.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; KIN 156.

**Corequisite(s):** KIN 172 or KIN 178 or KIN 179.

**Grading:** Credit / No Credit

*KIN 170D - Fieldwork in Sport Management*

1-3 unit(s)

Practical experience in a professional work setting while working and observing 100 hours under direct supervision of qualified sport management professionals. Interns assigned a variety of duties and experiences.

Course may be repeated for credit for up to 3 units.

**Prerequisite(s):** KIN 70, KIN 152, and upper division standing.

**Grading:** Credit/No Credit

*KIN 170E - Field Experience Coaching on Campus*

2 unit(s)

Practical experience in on-campus programs for coaching minors. May be repeated once for credit.

Course may be repeated for credit for up to 4 units.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Credit/No Credit

*KIN 170F - Field Experience Coaching off Campus*

2 unit(s)

Practical experience in off-campus programs for coaching minors. May be repeated once for credit.

Course may be repeated for credit for up to 4 units.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Credit/No Credit

*KIN 170G - Field Experience Activity Programs on Campus*

1 unit(s)

Practical experience in on-campus activity programs. Appropriate only for non-teaching concentration areas. Maximum of 3 units may be repeated.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent.

**Grading:** Credit/No Credit

*KIN 170H - Field Experience Skin and SCUBA Diving on Campus*

1 unit(s)

Practical experience in skin and SCUBA diving situations. Appropriate for certified SCUBA divers to satisfy certification requirements in on-campus program. Maximum of 4 units may be repeated

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** SCUBA Diver Certificate, Life-Saving, first-aid and CPR certification.

**Grading:** Credit/No Credit

*KIN 171A - Non Traditional Game and Sport Activities*

3 unit(s)

Non traditional and global game and sport activities appropriate for preadolescents and adolescents in instructional settings.

*Misc/Lab: Lecture/activity 4 hours*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; upper division standing.

**Grading:** Graded

*KIN 172 - Elementary School Programs, K-6*

3 unit(s)

Philosophy, principles and activities of physical education appropriate for children.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** KIN 70; KIN 165 or KIN 173. Open only to declared KIN majors/minors or instructor consent.

**Corequisite(s):** KIN 170B or KIN 170C .

**Grading:** Graded

*KIN 173 - Intro to Teaching PE & Non-trad Sports*

3 unit(s)

This course will introduce future physical educators to profession of teaching and will include philosophies, ethics, and standards for teaching, legal and current issues, learning-communities, inclusion of non-traditional and global

games and sport activities, and observations of effective teaching.

*Misc/Lab: Lecture 3 hour/Lab 3 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent or concurrent enrollment; KIN 171A.

**Corequisite(s):** KIN 170B.

**Grading:** Graded

*KIN 174 - Assessment of Psychomotor Function*

*3 unit(s)*

Basic procedural elements of informal observation, formal performance testing and direct measures of psychomotor function of individuals with disabling conditions.

**Prerequisite(s):** KIN 70; Open only to declared KIN majors/minors or instructor consent.

**Grading:** Graded

*KIN 175 - Measurement and Evaluation in Kinesiology*

*3 unit(s)*

Designed to develop an understanding of measurement and evaluation concepts and application relevant to assessment in the psychomotor, cognitive and affective domains. Activities include collection and computer analysis of data.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; approved GE Math Concept Course.

**Grading:** Graded

*KIN 176 - Exercise Psychology*

*3 unit(s)*

Examines the psychological determinants and consequences of exercise and physical activity. Analysis and critique of research and theory relevant to exercise adherence, motivation, self-efficacy, and attributional style. Practical applications of theoretical concepts.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*KIN 177 - Movement Experiences for Children*

*3 unit(s)*

Physical Education K-6 curricular philosophy and activities appropriate for elementary school personnel; emphasizes the social, emotional, physical and skill development of children in the elementary school setting.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** CHAD 60 or CHAD 067.

**Grading:** Graded

*KIN 178 - Management Practices for Physical Education Teachers*

3 unit(s)

Examines current practices for managing student behaviors, instructional technology, legal regulations, and physical fitness needs as well as exploring adolescent development.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; KIN 172, KIN 171A or concurrent enrollment and upper division standing.

**Corequisite(s):** KIN 170B or KIN 170C .

**Grading:** Graded

*KIN 179 - Design and Assessment of Movement Experiences*

3 unit(s)

Integrate concepts from kinesiology, motor learning, motor development to address sequential movement experiences, including qualitative analysis and interactions with performer.

*Misc/Lab: Lecture/activity 4 hours*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; KIN 158, KIN 166 and KIN 178.

**Corequisite(s):** KIN 170B or KIN 170C .

**Grading:** Graded

*KIN 180 - Independent Study*

1-6 unit(s)

Independent study through projects or directed reading related to the field of Kinesiology. Repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** GPA overall of 2.0; KIN 70 or instructor consent

**Grading:** Mandatory CR/NC/RP

*KIN 180C - Individual Studies: Coaching*

2 unit(s)

Individual education in selected coaching situations.

**Prerequisite(s):** KIN 70, upper division coaching minor; appropriate concepts and performance course, intermediate level competency or instructor consent.

**Grading:** Credit/No Credit

*KIN 184 - Directed Reading*

1-4 unit(s)

Assigned reading of selected books, journals and papers. Conferences with instructor, seminars, reports (oral and written). May be repeated for a total of 4 units.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** KIN 70 for majors/minors only for; instructor and department chair consent.

**Grading:** Credit/No Credit



*KIN 185 - Senior Seminar*

1 unit(s)

Active learning capstone course designed to synthesize students' undergraduate preparation, including internship experiences. Capstone course designed to integrate and synthesize students' knowledge and skills gained in their undergraduate preparation through active participation in the class and reflection on the internship experience; requires completion of a professional portfolio and a movement project

**Prerequisite(s):** KIN 70, Kin Majors ONLY, KIN Minors

**Grading:** Graded

*KIN 185H - Senior Seminar - Honors*

3 unit(s)

Examination of a topic of current interest in human performance. Summarized paper to be presented at student seminar.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; senior standing, 3.2 or better GPA and 3.5 or better average in major.

**Grading:** Graded

*KIN 186 - Pharmacology in Sports Medicine*

3 unit(s)

Focuses on the basic pharmacology principles including legislation, administration, pharmacotherapeutics, drug classifications, and drug therapy and testing. Primary emphasis is placed upon pharmacology in the sports medicine arena. This course is accessible only on-line.

**Prerequisite(s):** A basic prevention and care of athletic injuries course is highly recommended.

**Grading:** Graded

*KIN 187 - Clinical Exercise Physiology*

3 unit(s)

Physiological principles applied to the prevention, management, and treatment of chronic health conditions. Focus on the pathophysiology, acute response to exercise, chronic training effects, and development of appropriate conditioning and training programs for chronic conditions.

**Prerequisite(s):** KIN 70 (or equivalent) for majors/minors only or instructor consent; KIN 155; with grades of 'C-' or better in each.

**Grading:** Graded

*KIN 188 - Prevention and Care of Athletic Injuries*

2 unit(s)

Prevention through safe equipment, facilities and protective strapping. Methods used to aid recovery.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** KIN 70, BIOL 65 with a grade of 'C-' or better, or instructor consent.

**Grading:** Graded

*KIN 189 - Prevention and Care of Athletic Injuries Laboratory*

1 unit(s)

The laboratory course is designed to provide hands-on experience in the prevention and care of athletic injuries, including preventive and supportive taping techniques, emergency management, and various hands-on experiences related to the prevention of activity related injuries.

**Prerequisite(s):** KIN 70, KIN 188 (concurrent enrollment acceptable).

**Grading:** Graded

*KIN 191A - Advanced Assessment of Lower Extremity Injuries*

3 unit(s)

An advanced course designed to develop knowledge and skills in recognition, assessment, and medical referral of athletic injuries to the lower extremity, thoracolumbar spine, posture and gait. Activity sessions are designed to assist in the development of clinical assessment skills.

*Misc/Lab: Lecture 3 hour/Lab 3 hours.*

**Prerequisite(s):** KIN 70, KIN 188, KIN 189. Open only to declared KIN majors/minors or instructor consent.

**Grading:** Graded

*KIN 191B - Advanced Assessment of Upper Extremity Injuries*

3 unit(s)

An advanced course designed to develop knowledge and skills in recognition, assessment, and medical referral of athletic injuries to the upper extremity, abdomen, thorax, cervical spine, head, and general medical conditions. Activity sessions are designed to develop clinical assessment skills.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** KIN 70; KIN 191A.

**Grading:** Graded

*KIN 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*KIN 193 - Organization & Administration in Athletic Training*

2 unit(s)

Theoretical and practical information concerning organization and administration of a modern athletic training program, including managerial styles, personnel, facilities/equipment management, budget, medical records, insurance issues, legal aspects, public relations, and other current topics in athletic training.

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent; KIN 188.

**Grading:** Graded

*KIN 194 - Therapeutic Exercise*

3 unit(s)

Theoretical and clinical bases for the use of therapeutic exercise in rehabilitation settings; basic biomechanics, indications, contraindications, and proper application procedures of therapeutic exercise in athletic injury rehabilitation.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Pre/Corequisite(s):** KIN 191A and KIN 191B.

**Grading:** Graded

*KIN 195 - Therapeutic Modalities*

3 unit(s)

Theoretical and clinical aspects of therapeutic modalities in athletic rehabilitation. Includes the physics and physiological effects, indications and contra-indications, as well as application procedures of various therapeutic modalities.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** KIN 70 for majors/minors only or instructor consent. KIN 188 and upper division standing.

**Grading:** Graded

*KIN 197A - Practicum in Athletic Training I*

1 unit(s)

Introductory level supervised practical experiences at selected athletic training clinical settings.

**Prerequisite(s):** BIOL 65 and BIOL 66 with a grade of 'C' in each, KIN 188, KIN 189 and 50 hours of observation. Open only to KIN majors.

**Grading:** Credit/No Credit

*KIN 197B - Practicum in Athletic Training II*

1 unit(s)

Observations and experiences within the profession of athletic training to assist in developing required National Athletic Trainers' Association competencies. Interns supervised on a daily basis by a NATA-certified athletic trainer.

**Prerequisite(s):** KIN 197A. Open only to KIN majors.

**Grading:** Credit/No Credit

*KIN 197C - Practicum in Athletic Training III*

1 unit(s)

Clinical internship in allied health-related situations, e.g., physician's offices, physical therapy sports medicine clinics, etc. Typically off-campus assignment.

**Prerequisite(s):** KIN 191A and KIN 191B (concurrent enrollment in KIN 191B is allowed), KIN 197B and professional insurance recommended.

**Grading:** Credit/No Credit

*KIN 197D - Practicum in Athletic Training IV*

1 unit(s)

Course is designed to provide the student with advanced, diverse, supervised, and practical experiences in the athletic training profession. Selected on-an-off campus clinical settings will be used to assist the student in the development of professional competencies and proficiencies.

**Prerequisite(s):** KIN 195, KIN 197C.

**Grading:** Credit/No Credit

*KIN 198 - Internship in Kinesiology*

1-6 unit(s)

Practical professional experiences related to the field of Kinesiology. Experiences are varied and can include exercise testing, prescription and evaluation; program leadership, design, and/or administration; coaching; and sport medicine internships. May be repeated for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division status;GPA overall of 2.0; KIN 70 or instructor consent

**Grading:** Mandatory CR/NC/RP

*KIN 250 - Fundamentals of Quantitative Research*

3 unit(s)

Design, analysis and interpretation of quantitative research. Course focuses on the research process from the formulation of a research problem through the analysis of data. Topics include: ethics in research, research design and analysis issues and techniques, psychometrics, descriptive statistics, parametric and non-parametric inferential statistics, critiquing research.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** KIN 175 (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*KIN 251 - Fundamentals of Qualitative Research*

3 unit(s)

Design, analysis and interpretation of qualitative research. Course focuses on the research process from the formulation of a research problem through the analysis of data. Topics include: ethics in research, research design and analysis issues and techniques, data representation, critiquing research.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*KIN 255 - Advanced Exercise Physiology*

3 unit(s)

Survey and critical evaluation of current concepts and literature regarding physiological regulatory mechanisms of the oxygen transport system and muscle metabolism. Acute and chronic effects of exercise with emphasis placed on

physiological limitations.

**Prerequisite(s):** KIN 155 (or equivalent).

**Grading:** Graded

*KIN 256 - Environmental Exercise Physiology*

*3 unit(s)*

Survey and critical evaluation of current concepts and literature regarding various and environmental (heat, cold, altitude, etc.) conditions as they affect the typical responses to exercise. Acute effects and chronic adaptations examined.

**Prerequisite(s):** KIN 155 (or equivalent).

**Grading:** Graded

*KIN 257 - Biomechanics*

*3 unit(s)*

Principles and laws of physics and mechanics as applied to analysis of human movement activities. Critical evaluation of current research findings in sport biomechanics.

**Prerequisite(s):** KIN 158 (or equivalent).

**Grading:** Graded

*KIN 259 - Advanced Internship in Adapted Physical Activity*

*1-3 unit(s)*

Advanced, supervised practicum for the development of direct service, administration/supervision, in-service training and advocacy/leadership competencies in adapted physical activity.

**Prerequisite(s):** BS degree with emphasis in adapted physical education and/or satisfactory completion of specified didactic curriculum.

**Grading:** Credit/No Credit

*KIN 260 - Philosophy of Sport and Embodiment*

*3 unit(s)*

Development of a consistent set of basic professional values compatible with individual differences which may serve as a frame of reference for professional behavior.

**Prerequisite(s):** KIN 161 (or equivalent).

**Grading:** Graded

*KIN 264 - Sport Sociology*

*3 unit(s)*

An in-depth study of the relationship between sport and society. Focus will be on social and cultural factors that affect how Americans play and view sport.

**Prerequisite(s):** KIN 164 (or equivalent).

**Grading:** Graded

*KIN 265 - Advanced Motor Development*

3 unit(s)

Examination of specific theory and research related to the movement changes that occur across the lifespan. Interpretation of recent related research and individually guided investigation of a specific area of concern in motor development.

**Prerequisite(s):** KIN 165 (or equivalent).

**Grading:** Graded

*KIN 266 - Principles and Concepts of Perceptual Motor Learning*

3 unit(s)

Motor behavior and the learning patterns developed in acquiring skill in a motor activity.

**Prerequisite(s):** KIN 166 (or equivalent).

**Grading:** Graded

*KIN 267 - Advanced Sport Psychology*

3 unit(s)

Sport psychology research and its use in field settings. Major theoretical areas (anxiety, motivation, cohesion, etc.) and their application in sport.

**Prerequisite(s):** KIN 167 and KIN 168 (or equivalent).

**Grading:** Graded

*KIN 268 - Evidence Based Research and Practice in Management and Assessment of Injuries to Lower Extremities*

2 unit(s)

Multidisciplinary approach for recognition, initial care, treatment, and rehabilitation used to return athletes to lower extremity pre-injury fitness levels. (First course in two-course series.)

**Prerequisite(s):** BIOL 65, BIOL 66, KIN 155, KIN 158 and KIN 188.

**Grading:** Graded

*KIN 269 - Evidence Based Research and Practice in the Mgmt and Assessment of Injuries to the Upper Extremity*

2 unit(s)

Multidisciplinary approach for recognition, initial care, treatment and rehabilitation used to return an athlete to upper extremity pre-injury fitness levels (second course in two-course series).

**Prerequisite(s):** KIN 268.

**Grading:** Graded

*KIN 271 - Advanced Topics in Athletic Training*

3 unit(s)

This course is designed to improve the basic knowledge of athletic training students. Topics include outcome research and practical applications for mild traumatic brain injury, alteration evaluation skills for athletic injuries, and research design in the field of athletic training.

**Grading:** Graded

*KIN 272 - Evidence Based Research in the Practice of Therapeutic Exercise*

3 unit(s)

Investigation of the scientific and philosophical bases of therapeutic exercise and therapeutic modalities with reference to the rehabilitation process, and to acquire skills necessary for prudent application of current modalities and techniques.

**Prerequisite(s):** KIN 155, KIN 158 and KIN 188 (or equivalent).

**Grading:** Graded

*KIN 273 - Evidence Based Research in the Practice of Therapeutic Modalities*

2 unit(s)

An advanced course designed to critically evaluate the scientific and philosophical bases of therapeutic modality use. The course is intended to provide the student with the information necessary to perform prudent clinical applications of therapeutic modalities on orthopedic injuries.

**Grading:** Graded

*KIN 280 - Advanced Fieldwork in Sport Management*

1-3 unit(s)

Advanced practical experience in a professional work setting under the direct supervision of qualified sport management professionals. Interns assigned a variety of duties and experiences.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Credit/No Credit

*KIN 281 - Legal and Ethical Aspects of Sport*

3 unit(s)

Topics include sport and its relationship to the common law of contracts and torts, the statutory law of labor and antitrust, constitutional and civil rights law, communications law and ethics.

**Prerequisite(s):** Graduate standing

**Grading:** Graded

*KIN 282 - Marketing and Social Aspects of Sport*

3 unit(s)

Sport and its relationship to market research designs, strategies, plans, fundraising, consumer behavior, political, sociological and historical parameters.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*KIN 283 - Management, Leadership and Communication in Sport*

3 unit(s)

Management, administration, organizational behavior and communication theories, problems and issues in leadership in sport.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*KIN 284 - Financial Aspects of Sport*

3 unit(s)

Examines traditional and innovative methods of revenue acquisition available to sport organizations. Current financial challenges, innovative concepts and strategies used in financing sport operation.

**Prerequisite(s):** Graduate standing or approval of the instructor.

**Grading:** Graded

*KIN 285 - Internship in Kinesiology*

1-3 unit(s)

Advanced practical experience in a professional work setting under direct supervision of qualified professionals. Interns assigned various duties and experiences related to areas of specialization.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Credit/No Credit

*KIN 286 - Independent Study*

1-3 unit(s)

Independent study through research projects, creative intellectual productions or directed reading/literature review related to the field of Kinesiology. May be repeated for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Credit/No Credit

*KIN 287 - Advanced Clinical Exercise Physiology*

3 unit(s)

Pathophysiology and recent advances in the diagnosis and treatment of cardiovascular, metabolic, neurologic, and musculoskeletal diseases and disorders, including innovative biotechnological approaches. Content will include physiological mechanisms of these clinical conditions that affect responses to acute exercise and chronic adaptations to exercise training.

**Prerequisite(s):** KIN 187

**Grading:** Graded

*KIN 289 - Master of Arts Seminar in Kinesiology*

3 unit(s)

The purpose of this seminar course is to offer an intensive, comprehensive focus of a specific topic, and/or theme as it relates to the study of kinesiology.



**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*KIN 292A - Leadership and Administration in Athletic Training*

1 unit(s)

Current problems and issues related to the athletic training profession. Topics include professional ethics and competency, medicolegal issues, administration of athletic training programs, stress management and drug testing.

**Grading:** Graded

*KIN 292B - Seminar in Sports Medicine II*

2 unit(s)

Current issues related to the athletic training profession. Topics include eating disorders, injury rehabilitation and management. Related topics of medical and scientific nature will be discussed with guest lecturers.

*Misc/Lab: Lecture 2 hours/Supervision 1.5 hours*

**Grading:** Graded

*KIN 293A - Fieldwork in Athletic Training I*

2 unit(s)

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

*Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.*

**Grading:** Credit/No Credit

*KIN 293B - Fieldwork in Athletic Training II*

2 unit(s)

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

*Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.*

**Prerequisite(s):** KIN 293A.

**Grading:** Credit/No Credit

*KIN 293C - Fieldwork in Athletic Training III*

2 unit(s)

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

*Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.*

**Prerequisite(s):** KIN 293A, KIN 293B.

**Grading:** Credit/No Credit

*KIN 293D - Fieldwork in Athletic Training IV*

2 unit(s)

Advanced practical experience in athletic training under the direct supervision of qualified sports medicine professionals.

*Misc/Lab: Lecture 3 hours/Supervision 1.5 hours.*

**Prerequisite(s):** KIN 293A, KIN 293B and KIN 293C.

**Grading:** Credit/No Credit

*KIN 296A - Advanced Topics in Athletic Training*

3 unit(s)

This course covers current topics in the field of athletic training education. Topics may include but are not limited to: outcome research and practical applications for concussion management, movement patterns, and shoulder orientation and scapular adaptation for overhead athletes.

**Grading:** Graded

*KIN 298 - Special Studies*

3 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** KIN 250.

**Grading:** Mandatory CR/NC/RP

*KIN 299 - Master's Thesis or Project*

1-6 unit(s)

**Prerequisite(s):** KIN 250 and admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

*KNED 184I - Student Teaching for Kinesiology Individualized Interns*

2-4 unit(s)

Supervised student teaching in Kinesiology class(es) in the public school where the student is employed as an individualized intern.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Admission to Single Subject Credential Program; kinesiology advisor and Single Subject Coordinator consent

**Grading:** Credit/No Credit

*KNED 184Y - Student Teaching II: Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

**Prerequisite(s):** Joint approval of major and Education departments.

**Grading:** Credit/No Credit

*KNED 184Z - Student Teaching III - Classroom Teaching*

4-6 unit(s)

See KNED 184Y for course description.

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*KNED 339 - Instructional Materials and Procedures in Physical Education*

3 unit(s)

Application of theories of learning and principles of teaching to the selection of instructional procedures to be used in physical education. Practical experience provided.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** KIN 170B, KIN 172 and KIN 179 and department teacher education approval.

**Grading:** Graded

**Note(s):** Physical education majors and minors only.

*PH 169 - Diversity, Stress and Health*

3 unit(s)

Impact of structured inequalities on stress and health of diverse populations. Analysis of physiological/psychosocial health factors related to diversity, as well as behavioral interventions and social actions that mediate stress and optimize health and social justice.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

## Department of Nutrition, Food Science and Packaging

**Office:** Central Class Building 200

**Telephone:** 408-924-3100

**Email:** nufs-info-group@sjsu.edu

**Website:** www.jsu.edu/nufspkg

### **Professors**

Marjorie R. Freedman  
Clarie B. Hollenbeck  
Ashwini R. Wagle, Chair  
Fritz Yambrach

### **Associate Professors**

Kasuen Mauldin

### **Assistant Professors**

Xi Feng  
John Gieng  
Jamie Kubota  
Colette LaSalle  
Xiaojing (Kate) Liu  
Giselle Pignotti  
Adrienne Widaman

## **Overview**

Nutritionists, food scientists, dietitians, foodservice and packaging professionals. The Department of Nutrition, Food Science and Packaging trains graduates for rewarding careers in settings as diverse as community organizations, educational institutions, hospitals, nutrition and research laboratories, corporations and government agencies. The first nutrition department in the CSU system, our department traces its roots to 1911. We currently offer a master's degree in nutritional science and two undergraduate degrees in the field: a general BS degree and a BS degree with the option of concentrations in dietetics and packaging. Our dietetics program is accredited by the Academy of Nutrition and Dietetics (AND) and the Accreditation Council for Education in Nutrition and Dietetics (ACEND) qualifying our students to apply for ACEND accredited internships and to work toward becoming registered dietitians.

## **Undergraduate**

### **Nutritional Science, Applied Nutrition and Food Sciences Concentration, BS**

- Department of Nutrition, Food Science and Packaging
- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements 32

Major Preparation 27

Major Core Requirements	32
Concentration Requirements	29
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)

- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (27 units)

- BIOL 66 - Human Physiology 5 *unit(s)* (B2+B3)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3) (*Food Management can substitute CHEM 30A for CHEM 1A*)
- CHEM 30B - Introductory Chemistry 3 *unit(s)*
- NUFS 100W - Writing Workshop 3 *unit(s)* (Z)
- MICR 20 - General Bacteriology 5 *unit(s)* (B2+B3)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)

### Complete One Course From:

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- PH 67 - Introductory Health Statistics 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)

### Major Requirements (61 units)

## Major Core (32 units)

- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)
- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 20 - Sanitation and Environmental Issues in the Hospitality Industry 2 *unit(s)*
- NUFS 31 - Professionalism in Nutrition, Food Science and Packaging 1 *unit(s)*
- NUFS 101A - Food Science 4 *unit(s)*
- NUFS 103 - Food Processing and Packaging I 2 *unit(s)*
- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 106B - Research Methodology in Nutrition and Food Science 3 *unit(s)*
- NUFS 111 - Foodservice Production Management 3 *unit(s)*
- NUFS 192 - Field Experience in Nutrition and Food Science and Packaging Technology 1-6 *unit(s)*
- PKG 107 - Principles of Packaging 3 *unit(s)*

## Complete One Course From:

- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- NUFS 144 - Food Culture: Consuming Passions 3 *unit(s)* (V)

## Applied Nutrition and Food Sciences (29 units)

Complete 29 units from:

- CHEM 132 - Introductory Biochemistry 4 *unit(s)*
- CHEM 132L - Introductory Biochemistry Lab 1 *unit(s)*
- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- KIN 155 - Exercise Physiology 3 *unit(s)*
- KIN 162 - Advanced Fitness Assessment and Exercise Prescription 3 *unit(s)*
- NUFS 21 - Culinary Principles and Practice 3 *unit(s)*
- NUFS 22 - Catering and Beverage Management 2 *unit(s)*
- NUFS 103L - Food Processing Laboratory 1 *unit(s)*
- NUFS 104A - Cultural Aspects of Food 3 *unit(s)*
- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*
- NUFS 108A - Nutrition and Metabolism 3 *unit(s)*
- NUFS 114A - Community Nutrition for Majors 3 *unit(s)*
- NUFS 116 - Aging and Nutrition 3 *unit(s)*
- NUFS 117 - Food Evaluation Techniques 2 *unit(s)*
- NUFS 118 - Food Chemistry 3 *unit(s)*
- NUFS 122 - Chemical Analysis of Food 3 *unit(s)*
- NUFS 123 - Nutrition for Sport 3 *unit(s)*
- NUFS 124 - Disordered Eating and Nutrition Therapy 3 *unit(s)*
- NUFS 134 - Complementary and Alternative Health Practices 3 *unit(s)*
- NUFS 150 - Food and Nutritional Toxicology 2 *unit(s)*
- NUFS 180 - Individual Studies 1-6 *unit(s)*
- NUFS 190 - Nutrition Education and Counseling 3 *unit(s)*
- NUFS 194 - Entrepreneurial Nutrition 1 *unit(s)*
- SPAN 4A - Basic Spanish I 4 *unit(s)* (Or by Advertisement)

## Total Units Required (120 units)

# Nutritional Science, Dietetics Concentration, BS

- Department of Nutrition, Food Science and Packaging
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	32
Major Preparation	32
Major Core Requirements	32
Concentration Requirements	24
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)



The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (32 units)**

- BIOL 66 - Human Physiology 5 *unit(s)* (B2+B3)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 30B - Introductory Chemistry 3 *unit(s)*
- CHEM 132 - Introductory Biochemistry 4 *unit(s)*
- CHEM 132L - Introductory Biochemistry Lab 1 *unit(s)*
- NUFS 100W - Writing Workshop 3 *unit(s)* (Z)
- MICR 20 - General Bacteriology 5 *unit(s)* (B2+B3)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)

## Complete One Course From:

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- PH 67 - Introductory Health Statistics 3 *unit(s)* (B4) (Note: UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Major Requirements (56 units)

### Major Core (32 units)

- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)
- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 20 - Sanitation and Environmental Issues in the Hospitality Industry 2 *unit(s)*
- NUFS 31 - Professionalism in Nutrition, Food Science and Packaging 1 *unit(s)*
- NUFS 101A - Food Science 4 *unit(s)*
- NUFS 103 - Food Processing and Packaging I 2 *unit(s)*
- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 106B - Research Methodology in Nutrition and Food Science 3 *unit(s)*
- NUFS 111 - Foodservice Production Management 3 *unit(s)*
- NUFS 192 - Field Experience in Nutrition and Food Science and Packaging Technology 1-6 *unit(s)*
- PKG 107 - Principles of Packaging 3 *unit(s)*

## Complete One Course From:

- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- NUFS 144 - Food Culture: Consuming Passions 3 *unit(s)* (V)

## Concentration Requirements (24 units)

- NUFS 108A - Nutrition and Metabolism 3 *unit(s)*
- NUFS 108L - Nutrition Laboratory 1 *unit(s)*
- NUFS 109 - Advanced Nutrition 3 *unit(s)*
- NUFS 110A - Medical Nutrition Therapy 3 *unit(s)*
- NUFS 110B - Medical Nutrition Therapy 3 *unit(s)*
- NUFS 113 - Foodservice Systems: Mgmt & Proc 3 *unit(s)*
- NUFS 114A - Community Nutrition for Majors 3 *unit(s)*
- NUFS 190 - Nutrition Education and Counseling 3 *unit(s)*

## Complete Two Units from (or by Advisement):

- NUFS 21 - Culinary Principles and Practice 3 *unit(s)*
- NUFS 22 - Catering and Beverage Management 2 *unit(s)*
- NUFS 103L - Food Processing Laboratory 1 *unit(s)*
- NUFS 104A - Cultural Aspects of Food 3 *unit(s)*
- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*
- NUFS 116 - Aging and Nutrition 3 *unit(s)*

- NUFS 123 - Nutrition for Sport 3 *unit(s)*
- NUFS 124 - Disordered Eating and Nutrition Therapy 3 *unit(s)*
- NUFS 134 - Complementary and Alternative Health Practices 3 *unit(s)*
- NUFS 180 - Individual Studies 1-6 *unit(s)*
- NUFS 194 - Entrepreneurial Nutrition 1 *unit(s)*
- SPAN 4A - Basic Spanish I 4 *unit(s)* (Or by Advertisement)

Total Units Required (120 units)

## Nutritional Science, Food Management Concentration, BS

The concentration in Food Management under the Bachelor of Science in Nutritional Science provides students with the education and background needed to gain employment in foodservice administration. The course plan emphasizes providing a scientific foundation in introductory chemistry, bacteriology and human physiology. Support courses in psychology, statistics and economics also provide a strong background. Business courses in human resource management, accounting, and labor relations are needed to provide business skills utilized in foodservice management. Numerous courses in culinary skills, foodservice production management and procurement, catering, sanitation and food science, and cultural aspects of food, as well as nutrition, provide the industry focused education needed to function in the foodservice industry in management.

All students majoring in the Food Management concentration complete both a foodservice internship for 200 hours as well as a field experience course planned for a higher level of work responsibilities with enrollment as a senior for 90 hours. Both experiences provide the students majoring in the Food Management Concentration with the knowledge, skills, and confidence to interview for foodservice management positions. A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses and students should seek early and frequent advice from departmental advisors.

There are no minimum grade requirements for the major other than an overall 2.5 average across the courses in the major. The Concentration course plan meets the Program Learning Outcomes established for the Department of Nutrition, Food Science and Packaging. The BS degree in Nutritional Science with a Concentration in Food Management is a regimented degree plan for students who wish to develop a focused set of skills to be successful in the foodservice industry so they can apply these skills in a practical setting.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	32
Major Preparation	32
Major Requirements	37
University Electives	26
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (32 units)

- BIOL 66 - Human Physiology 5 *unit(s)* (B2+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1B3)
- CHEM 30B - Introductory Chemistry 3 *unit(s)*
- NUFS 100W - Writing Workshop 3 *unit(s)* (Z)
- MICR 20 - General Bacteriology 5 *unit(s)* (B2+B3)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)

## Complete One Course From:

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- PH 67 - Introductory Health Statistics 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Major Requirements (63 units)

### Major Core (32 units)

- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)
- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 20 - Sanitation and Environmental Issues in the Hospitality Industry 2 *unit(s)*
- NUFS 31 - Professionalism in Nutrition, Food Science and Packaging 1 *unit(s)*
- NUFS 101A - Food Science 4 *unit(s)*
- NUFS 103 - Food Processing and Packaging I 2 *unit(s)*
- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 106B - Research Methodology in Nutrition and Food Science 3 *unit(s)*
- NUFS 111 - Foodservice Production Management 3 *unit(s)*
- NUFS 192 - Field Experience in Nutrition and Food Science and Packaging Technology 1-6 *unit(s)*
- PKG 107 - Principles of Packaging 3 *unit(s)*

## Complete One Course From:

- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- NUFS 144 - Food Culture: Consuming Passions 3 *unit(s)* (V)

## Food Management Concentration (26 units)

- BUS1 20N - Survey of Accounting 3 *unit(s)*
- BUS3 150 - Fundamentals of Human Resource Management 3 *unit(s)*
- BUS3 151 - Labor Relations 3 *unit(s)*
- NUFS 21 - Culinary Principles and Practice 3 *unit(s)*
- NUFS 22 - Catering and Beverage Management 2 *unit(s)*
- NUFS 25 - Internship in Foodservice Management 1-2 *unit(s)*
- NUFS 104A - Cultural Aspects of Food 3 *unit(s)*
- NUFS 113 - Foodservice Systems: Mgmt & Proc 3 *unit(s)*

## Complete One Course From:

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)

## Major Electives (5 units)

Complete five units from (or by advisement):

- BUS4 91L - Computer Tools for Business 1 *unit(s)*
- NUFS 103L - Food Processing Laboratory 1 *unit(s)*
- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*
- NUFS 116 - Aging and Nutrition 3 *unit(s)*
- NUFS 194 - Entrepreneurial Nutrition 1 *unit(s)*
- PKG 169 - Food Packaging and Preservation 3 *unit(s)*
- SPAN 4A - Basic Spanish I 4 *unit(s)* (or by advisement)

## Total Units Required (120 units)

## Packaging, BS

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	30
Major Requirements	47
University Electives	8
<b>Total</b>	<b>120</b>

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 unit(s) (M12)
- POLS 15 - Essentials of U.S. & California Government 3 unit(s) (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (30 units)

*May substitute CHEM 1A for CHEM 30A. Students can also substitute CHEM 8 for CHEM 30B.*

- CHEM 30A - Introductory Chemistry 3 unit(s) (B1+B3)
- CHEM 30B - Introductory Chemistry 3 unit(s)
- NUFS 100W - Writing Workshop 3 unit(s) (Z)
- MATH 70 - Finite Mathematics 3 unit(s) (B4)
- MATH 71 - Calculus for Business and Aviation 3 unit(s) (B4)
- MICR 20 - General Bacteriology 5 unit(s) (B2+B3)
- PSYC 1 - Introduction to Psychology 3 unit(s) (D1)
- PHYS 2A - Fundamentals of Physics 4 unit(s) (B1+B3)

### Complete One Course From:

- STAT 95 - Elementary Statistics 3 unit(s) (B4)
- PH 67 - Introductory Health Statistics 3 unit(s) (B4)

### Major Requirements (47 units)

#### Core Courses (11 units)

- NUFS 8 - Nutrition for the Health Professions 3 unit(s)
- NUFS 31 - Professionalism in Nutrition, Food Science and Packaging 1 unit(s)
- NUFS 192 - Field Experience in Nutrition and Food Science and Packaging Technology 1-6 unit(s)
- PKG 107 - Principles of Packaging 3 unit(s)

#### Packaging Requirements (36 units)



- NUFS 103 - Food Processing and Packaging I 2 *unit(s)*
- NUFS 103L - Food Processing Laboratory 1 *unit(s)*
- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- PKG 120 - Artios CAD For Packaging 3 *unit(s)*
- PKG 121 - Solidworks For Packaging 3 *unit(s)*
- PKG 141A - Packaging Materials I, Paper, Metal, and Wood Based 3 *unit(s)*
- PKG 141B - Packaging Materials II, Plastics, Composites, and Glass 3 *unit(s)*
- PKG 146 - Packaging for Medical Devices and Pharmaceuticals 3 *unit(s)*
- PKG 156 - Packaging Machinery Systems 3 *unit(s)*
- PKG 158 - Protective Package Design and Testing 3 *unit(s)*
- PKG 159 - Packaging Material Handling and Distribution 3 *unit(s)*
- PKG 169 - Food Packaging and Preservation 3 *unit(s)*
- PKG 170 - Packaging Development and Management 3 *unit(s)*

University Electives (8 units)

Total Units Required (120 units)

## Master

### Nutritional Science, MS

The Master of Science in Nutritional Science program is designed to meet the needs of the student who has a baccalaureate degree and seeks advanced preparation in nutrition science, nutrition education, geriatric nutrition, and food service/restaurant management and packaging. The program is intended to prepare candidates to assume leadership roles in their profession and communities and to provide the opportunity to acquire a foundation for doctoral study. Our MS graduates have earned doctorates, become college and university faculty, been employed in private, federal and state research institutions, and have established their own private practice or consulting business. In the process of fulfilling requirements for the MS degree, it is possible to complete the academic requirements of the Academy of Nutrition and Dietetics (AND) and the Accreditation Council for Education in Nutrition and Dietetics (ACEND) toward becoming a registered dietitian. Courses are scheduled to accommodate the time needs of working graduate students.

Additional information is available on the Department of Nutrition, Food Science and Packaging website: [www.sjsu.edu/nufspkg](http://www.sjsu.edu/nufspkg).

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Nutritional Science program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

Candidates must meet all the university admission requirements. Students can be admitted to the MS, Nutritional Science program in either classified or conditionally classified standing. All prospective students need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the M.S. in Nutritional Science program. A selection committee will determine eligibility for admission to classified standing on the basis of information provided in the application. Criteria include:

1. BA or BS degree in Nutritional Science, Food Science, Foodservice Management, or equivalent
2. Grade point average of 3.0 in upper-division course.
3. Completed Prerequisite course requirements as described in the MS, Nutritional Science graduate handbook.
4. The following documents sent to the NUFS/PKG graduate coordinator by email:
  1. Signed and dated letter of intent
  2. Three (3) letters of recommendation
  3. Signed "right of access to letter of recommendation" form for each person providing a letter
  4. Resume

## Requirements for Admission to Conditionally Classified Standing

Students seeking an MS, Nutritional Science degree who meet requirements for admission to the Graduate Division, but lack an undergraduate degree in Nutritional Science, Food Science, Foodservice Management or equivalent and have little or no professional experience, may apply for conditionally classified standing in the department. The decision to accept the student for study in this program will be made by a selection committee. Criteria include:

1. BA or BS degree
2. Grade point average of 3.0 in upper-division courses.
3. Completion of prerequisite course requirements courses to correct deficiencies in undergraduate courses.

The individual admission letter will explain the required terms and conditions for attaining Classified standing.

## Requirements for Admission to Candidacy for the MS - Nutritional Science

Prior to registering for the first time (or upon re-entering), a student should consult with the Graduate Coordinator to develop a schedule of courses. Advancement to candidacy for the Master's degree in Nutritional Science requires favorable action of the Graduate Committee of the Department of Nutrition, Food Science and Packaging and of the university's Office of Graduate Admissions & Program Evaluations. In general, students will be recommended for candidacy when they:

1. Fulfill all university requirements for advancement to candidacy.
2. Attain classified graduate standing
3. Complete a minimum of 9 units of letter-graded approved courses.
4. Receive a minimum 3.0 grade point average in all classes listed on the candidacy form.
5. Successfully complete NUFS 217 with at least a "C" to meet the Graduation Writing Assessment Requirement (GWAR).
6. Select a graduate advisor and thesis or project topic.

# Requirements for Graduation

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## MS - Nutritional Science Graduation Requirements

Maintenance of a 3.0 GPA is necessary. A comprehensive final oral examination is required and will be of such scope and manner as determined by the student's graduate committee. As shown below, the program consists of 30 semester units of approved work, including 6 units of Plan A (Thesis) or 3 units of Plan B (Project).

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan A (Thesis)

For this plan, the student is required to complete 6 units of the NUFS 299 - Master's Thesis. A maximum 3 units of the NUFS 298 - Special Studies in Nutrition, Food Science and Packaging is allowed. See program thesis information for steps in completing a thesis. A bound copy of the thesis must be submitted to the Nutrition, Food Science and Packaging Department and to the student's thesis advisor. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

### Plan B (Project)

For this plan, the student is required to complete the NUFS 298 - Special Studies in Nutrition, Food Science and Packaging and submit a written project in publication format. A bound copy of the project must be submitted to the Nutrition, Food Science and Packaging Department and to the student's project advisor. This option requires an additional 3-unit elective.

## Master's Requirements (30 units)

### Core Courses (12 units)

- NUFS 201 - Colloquium in Nutrition, Food Science and Packaging 3 *unit(s)*
- NUFS 217 - Issues in Nutrition, Food and Packaging 3 *unit(s)* (GWAR)
- NUFS 295A - Research Methodology 3 *unit(s)*

### Complete One Course From:

- NUFS 216 - Seminar in Food Chemistry and Packaging 3 *unit(s)*

- NUFS 219A - Advanced Nutrition and Metabolism 3 *unit(s)*
- NUFS 219B - Seminar in Advanced Topics in Human Nutrition & Dietetics 3 *unit(s)*
- NUFS 242 - Advanced Foodservice/Restaurant Management 3 *unit(s)*
- NUFS 270 - Package Design for End Use 3 *unit(s)*

## Specialization Area (12 units)

12 units electives selected in consultation with the graduate advisor

## Culminating Experience (6 units)

### **Complete Plan A (Thesis) or Plan B (Project)**

#### Plan A (Thesis) (6 units)

- NUFS 299 - Master's Thesis 1-6 *unit(s)*

#### Plan B (Project) (6 units)

- NUFS 298 - Special Studies in Nutrition, Food Science and Packaging 1-6 *unit(s)*
- An additional 3-unit elective selected in consultation with the graduate advisor 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### **Nutrition for Physical Performance Minor**

#### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### **Minor Requirements (15 units)**

- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*
- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 123 - Nutrition for Sport 3 *unit(s)*

- KIN 162 - Advanced Fitness Assessment and Exercise Prescription 3 *unit(s)*

## Total Units Required (15 units)

If KIN 162 is required by the major, select another nutrition course with approval of the advisor.

## Nutrition Science and Food Science Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Courses (9 units)

- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*

### Complete One Course From:

- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- NUFS 144 - Food Culture: Consuming Passions 3 *unit(s)* (V)

### Complete One Course From:

- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 9 - Introduction to Human Nutrition 3 *unit(s)* (E)

## Additional Courses (6 units)

Complete six units from:

- NUFS 1A - Physical Science of Food 3 *unit(s)* (B1)
- NUFS 20 - Sanitation and Environmental Issues in the Hospitality Industry 2 *unit(s)*
- NUFS 22 - Catering and Beverage Management 2 *unit(s)*
- NUFS 104A - Cultural Aspects of Food 3 *unit(s)*
- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 114B - Community Nutrition (non-majors) 3 *unit(s)*
- NUFS 116 - Aging and Nutrition 3 *unit(s)*
- NUFS 123 - Nutrition for Sport 3 *unit(s)*
- NUFS 124 - Disordered Eating and Nutrition Therapy 3 *unit(s)*
- NUFS 134 - Complementary and Alternative Health Practices 3 *unit(s)*
- NUFS 194 - Entrepreneurial Nutrition 1 *unit(s)*
- PKG 107 - Principles of Packaging 3 *unit(s)*

## Total Units Required (15 units)

# Packaging Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Courses (9 units)

- PKG 107 - Principles of Packaging 3 *unit(s)*
- PKG 141A - Packaging Materials I, Paper, Metal, and Wood Based 3 *unit(s)*
- PKG 141B - Packaging Materials II, Plastics, Composites, and Glass 3 *unit(s)*

### Approved Electives (6 units)

Complete six units from:

- PKG 146 - Packaging for Medical Devices and Pharmaceuticals 3 *unit(s)*
- PKG 156 - Packaging Machinery Systems 3 *unit(s)*
- PKG 158 - Protective Package Design and Testing 3 *unit(s)*
- PKG 159 - Packaging Material Handling and Distribution 3 *unit(s)*
- PKG 169 - Food Packaging and Preservation 3 *unit(s)*
- PKG 170 - Packaging Development and Management 3 *unit(s)*

## Total Units Required (15 units)

### *NUFS 1A - Physical Science of Food*

3 *unit(s)*

Introductory course to the physical, chemical and sensory properties of food for students not majoring in the sciences. Basic structure, function and organization of foods, laws of thermodynamics, systems of classification, as well as the interactions of energy and matter.

*Satisfies B1: Physical Science*

**Grading:** Graded

### *NUFS 8 - Nutrition for the Health Professions*

3 *unit(s)*

Nutrients and their functions; recommended nutrient intakes and evaluation of dietary adequacy; relationship of nutrition to optimum health and dietary changes in disease. For nutritional science, nursing and other health profession majors.

**Prerequisite(s):** CHEM 1A or CHEM 30A (with a grade of 'C' or better), or instructor consent.

**Grading:** Graded

*NUFS 9 - Introduction to Human Nutrition*

3 unit(s)

Principles and methodology of nutritional science; standards of nutrient intake; physiological functions and chemical classification of nutrients; nutrient needs throughout the lifespan; relationship between diet and disease; scientific, social, and psychological issues.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

**Note(s):** Not open to majors.

*NUFS 10 - Basic Life Skills*

3 unit(s)

Introduction to basic nutrition and culinary concepts for selecting and preparing healthy, budget-friendly foods to establish healthy eating habits for independent living. Emphasis on self-care, wellness, and development of personal resource management skills to foster academic, professional, and personal growth.

*Lecture 2 hours/lab 3 hours.*

*Satisfies E: Human Understanding & Development.*

**Grading:** Graded

*NUFS 12 - Cost Control in Hospitality*

3 unit(s)

Food, beverage and payroll systems, including standards determination; variable, semi-variable and fixed costs; the operating budget; income and cost control and menu pricing. Cost control simulation exercises implemented through software programs.

**Prerequisite(s):** HSPM 1, BUS1 20N.

**Corequisite(s):** HSPM 11 and HSPM 65

**Grading:** Graded

*NUFS 16 - Science, Physiology, and Nutrition*

3 unit(s)

Introduction to life sciences, from chemistry to cellular and physiologic functions, with nutrition as an underlying theme. Interactions with environment, including effect of culture, genetics, and nutrition on susceptibility to disease. Applications of biotechnology in the life sciences.

*Satisfies B2: Life Science*

**Grading:** Graded

*NUFS 20 - Sanitation and Environmental Issues in the Hospitality Industry*

2 unit(s)

Sanitation in food service, hotel and travel/tourism industries; study of pathogenic organisms and food handling procedures. Occupational health, safety and environmental control in the hospitality industry.

**Grading:** Graded

*NUFS 21 - Culinary Principles and Practice*

3 unit(s)

Introduction to principles of food and beverage production and techniques. Emphasis on quality and culinary standards.

*Misc/Lab: Lecture 2 hour/Lab 3 hours.*

**Grading:** Graded

*NUFS 22 - Catering and Beverage Management*

2 unit(s)

Planning and executing catering and buffet functions. Evaluation of alcoholic and non-alcoholic beverages regarding purchasing, storage, preparation, merchandising and regulations.

*Misc/Lab: Lecture/lab 4 hours.*

**Prerequisite(s):** NUFS 20 or instructor consent

**Grading:** Graded

*NUFS 23 - Culinary Concepts*

3 unit(s)

Food and beverage production techniques; preparation of food and beverage with emphasis on quality standards.

*Misc/Lab: Lecture 1 hour/Lab 6 hours.*

**Grading:** Graded

*NUFS 25 - Internship in Foodservice Management*

1-2 unit(s)

Approved professional broad-based work experience in foodservice management industry for total of 200 hours. Written report due at completion. A maximum of 2 units may be repeated.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** NUFS 20 and instructor consent.

**Grading:** Credit/No Credit

*NUFS 31 - Professionalism in Nutrition, Food Science and Packaging*

1 unit(s)

Professional roles, skills and opportunities in the fields of dietetics, foodservice, food science, and packaging.



**Grading:** Graded

*NUFS 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*NUFS 100W - Writing Workshop*

3 unit(s)

Development of skills in scientific and technical writing. How to write a critical review of published writing, a business letter, a scholarly paper, and give an oral presentation.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*NUFS 101A - Food Science*

4 unit(s)

Experimental study of food and introduction to scientific methods used in food evaluation; functions of ingredients in prepared foods.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** CHEM 30B or CHEM 8. College basic food preparation course or instructor consent.

**Grading:** Graded

*NUFS 101B - Computer Applications for Professionals*

3 unit(s)

Computer applications for storage, editing, communication, managing, composition and processing of information. Focus on providing information and experience in using standard software packages for word processing, data management, graphics and statistics in educational and professional applications.

*Lecture 2 hours/Lab 2 hours*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*NUFS 103 - Food Processing and Packaging I*

2 unit(s)

Principles and methods of food preservation/processing and packaging operations. Raw materials handling, effect of processing on nutritional value of foods, packaging and food additives. Recommended: College basic food preparation course.

*Misc/Lab: Lecture/lab 5 hours.*

**Prerequisite(s):** CHEM 30B or CHEM 8 or instructor consent.

**Grading:** Graded

*NUFS 103L - Food Processing Laboratory*

*1 unit(s)*

Laboratory activities associated with the principles and methods of food preservation/processing and packaging operations; raw materials handling, effect of processing on nutritional value of foods, packaging and food additives.

**Prerequisite(s):** CHEM 30B or CHEM 8; instructor consent

**Grading:** Graded

*NUFS 104A - Cultural Aspects of Food*

*3 unit(s)*

Regional, ethnic and religious influences on food culture. Activity with foods of several cultures.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*NUFS 105 - Current Issues in Nutrition*

*3 unit(s)*

Controversial topics, including the relation of nutrition to cancer, coronary heart disease, hypertension, diabetes, eating disorders, osteoporosis and athletic performance; recommended nutrient intakes; and other current issues.

**Prerequisite(s):** NUFS 8, NUFS 9, NUFS 163 or equivalent introductory course in human nutrition.

**Grading:** Graded

*NUFS 106A - Human Nutrition in the Life Span*

*3 unit(s)*

Integrates chemical, biological and social sciences into a comprehensive concept of human nutrition. Emphasis on assessing nutrient status; planning and intervention throughout the life cycle.

**Prerequisite(s):** NUFS 8 (with a grade of 'C' or better) or passing grade on a challenge exam.

**Corequisite(s):** NUFS 100W / NURS 100W / PH 100W, NUFS 31.

**Grading:** Graded

*NUFS 106B - Research Methodology in Nutrition and Food Science*

*3 unit(s)*

Introduction to research methodology, interpretation and data analysis with a focus on developing strong information literacy skills, as well as critical thinking, reading, and writing skills in refining scholarly writing in the style of the discipline.

**Prerequisite(s):** STAT 95 or PH 67.

**Corequisite(s):** NUFS 106A and NUFS 100W / NURS 100W / PH 100W.

**Grading:** Graded

*NUFS 107 - Principles of Packaging*

3 unit(s)

Basic knowledge of packaging functions, materials and industry. A variety of packaging topics including distribution systems, packaging development, package design, legislation, regulations, societal and environmental issues, ergonomics and packaging careers.

**Prerequisite(s):** ENGL 1A or equivalent.

**Grading:** Graded

*NUFS 108A - Nutrition and Metabolism*

3 unit(s)

Chemical and physiological studies of carbohydrate, protein, lipid, vitamin and mineral metabolism. Application to the normal nutrition of human beings.

**Prerequisite(s):** NUFS 106A, BIOL 66, CHEM 132 (both with a grade of 'C' or better); and NUFS 100W / NURS 100W / PH 100W.

**Grading:** Graded

*NUFS 108L - Nutrition Laboratory*

1 unit(s)

Chemical and biochemical analysis of nutrients and metabolites in body fluids for the assessment of nutritional status of humans.

*Lab 3 hours.*

**Prerequisite(s):** CHEM 132L; STAT 95 or BUS2 90 or PH 167.

**Corequisite(s):** NUFS 108A.

**Grading:** Graded

*NUFS 109 - Advanced Nutrition*

3 unit(s)

Advanced studies of vitamins and minerals. Evaluation and interpretation of nutritional research methodology and findings.

**Prerequisite(s):** NUFS 106A; CHEM 132 (with grades of 'C' or better in each); NUFS 100W / NURS 100W / PH 100W; and BIOL 66; BUS2 90, STAT 95 or PH 167.

**Grading:** Graded

*NUFS 110A - Medical Nutrition Therapy*

3 unit(s)

Application of nutritional principles and dietary intake to meet the needs of various pathological conditions.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** NUFS 108A (with grade of 'C' or better).

**Corequisite(s):** NUFS 109.

**Grading:** Graded

*NUFS 110B - Medical Nutrition Therapy*

3 unit(s)

Application of nutritional principles and dietary intake to meet the needs of various pathological conditions.

*Misc/Lab: Lecture/activity 4 hours.*

**Prerequisite(s):** NUFS 110A and NUFS 109 (with a grade of C or better in each).

**Grading:** Graded

*NUFS 111 - Foodservice Production Management*

3 unit(s)

Principles and procedures for menu planning, production scheduling, volume food production, operation of foodservice equipment, sanitation control and formula costing.

*Misc/Lab: Lecture 2 hours/Lab 3 hours*

**Prerequisite(s):** NUFS 101A or HSPM 11; NUFS 8 or NUFS 9; or instructor consent.

**Grading:** Graded

*NUFS 113 - Foodservice Systems: Mgmt & Proc*

3 unit(s)

Selection and purchasing in foodservice operations: food and equipment and writing food/equipment specifications. Allocation and management of resources in foodservice systems: materials (food and supplies), facilities (equipment and space), human (management and employee labor), operational (time and money).

*Misc/Lab: Lecture/lab 5 hours.*

**Prerequisite(s):** NUFS 111 or instructor consent.

**Grading:** Graded

*NUFS 114A - Community Nutrition for Majors*

3 unit(s)

Nutrition problems; public policy, advocacy and legislation; government programs; needs assessments; management of community services.

**Prerequisite(s):** NUFS 106A, senior standing and instructor consent.

**Grading:** Graded

*NUFS 114B - Community Nutrition (non-majors)*

3 unit(s)

Key nutrition concepts and terms; age appropriate nutritional interventions focusing on school-age children; nutrition and public policy, advocacy and legislation; government programs and provision of community nutrition services

focusing on mother and children.

**Grading:** Graded

*NUFS 115 - Issues in Food Toxicology*

*3 unit(s)*

Introduction to toxicology of foods, and food-borne chemicals and organisms. Scientific basis for determining biological and environmental safety of the food supply from food development, growth and production through harvesting, processing, storage and eventual consumption. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 115ITL - Issues in Food Toxicology- International Experience*

*3 unit(s)*

Seminars on food toxicology issues. Scientific basis for determining biological and environmental safety of the food supply from farm to table. Includes a field trip to learn agricultural systems outside the U.S. and gain a global view of food safety.

**Prerequisite(s):** Completion of core GE and Writing Skill Test

**Grading:** Graded

*NUFS 116 - Aging and Nutrition*

*3 unit(s)*

The aging process, physiological changes, dietary requirements, diseases, environmental factors, housing, economic status, handicaps, personal relations and current programs for the aged.

**Prerequisite(s):** One college nutrition course or instructor consent.

**Grading:** Graded

*NUFS 117 - Food Evaluation Techniques*

*2 unit(s)*

Studies in food experimentation, sensory evaluation and objective methods.

*Misc/Lab: Lecture/lab 5 hours.*

**Prerequisite(s):** NUFS 8 and NUFS 101A; CHEM 30A, CHEM 30B, CHEM 1A or instructor consent.

**Grading:** Graded

*NUFS 118 - Food Chemistry*

3 unit(s)

Important classes of food constituents, their nature, occurrence, chemical and biochemical significance, and the changes they undergo during food preservation and processing.

*Misc/Lab: Lecture/lab 5 hours.*

**Prerequisite(s):** NUFS 101A and/or NUFS 103; CHEM 30B or CHEM 8; or Instructor Consent

**Grading:** Graded

*NUFS 122 - Chemical Analysis of Food*

3 unit(s)

Techniques in chemical analysis of nutrients and other components of food. Planning, conducting and evaluating a scientific experiment and presenting the data in technical written form.

*Lecture/lab 7 hours.*

**Prerequisite(s):** NUFS 103, NUFS 100W / NURS 100W / PH 100W, STAT 95 or PH 67.

**Grading:** Graded

*NUFS 123 - Nutrition for Sport*

3 unit(s)

Planning optimum diets for performance and health; metabolism and energy systems; roles of nutrients in physical performance; efficacy of ergogenic nutrition aids.

**Prerequisite(s):** NUFS 8 or NUFS 9.

**Grading:** Graded

*NUFS 124 - Disordered Eating and Nutrition Therapy*

3 unit(s)

Metabolic, physiological, and psychological determinants and effects of disordered dietary behaviors. Disorders in regulation of food intake, case studies, and different intervention approaches explored. Screening and treatment of disordered eating in athletes emphasized. Opportunities provided to develop counseling strategies.

**Prerequisite(s):** NUFS 8.

**Grading:** Graded

*NUFS 125 - Child Nutrition Program Administration*

2 unit(s)

Study of the components of model child nutrition programs through application of current child health and nutrition principles, education practices, marketing procedures, communication strategies, computer-based nutrient and business analysis and operations management skills.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Offered Summer only.

*NUFS 134 - Complementary and Alternative Health Practices*

3 unit(s)

Philosophical, historical, clinical, and scholarly aspects of complementary and alternative medicine and associated health practices used in the US, with emphasis on scientific clinical investigation and evidence based efficacy.

**Prerequisite(s):** Completion of Core GE or instructor consent.

**Grading:** Graded

*NUFS 135 - Health Issues in a Multicultural Society*

3 unit(s)

Multidisciplinary interpretation and evaluation of consumer health issues. Impact of cultural variables (including communication methods, socioeconomic status and traditional beliefs) on health and illness. Interaction of individuals in families and other groups.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 139 - Hunger and Environmental Nutrition*

3 unit(s)

Physiology of hunger/malnutrition on human development and health; political, social, cultural and gender factors that contribute to world hunger; scientific/technological foundation to population research and food production and their effect on the environment. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 139ITL - Hunger and Environmental Nutrition*

3 unit(s)

The physiology of hunger/malnutrition on human development and health; political, social, cultural, and gender factors that contribute to world hunger; scientific/technological foundations of population research and food production and their effect on the environment.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 141A - Packaging Materials I, Paper, Metal, and Wood Based*

3 unit(s)

In-depth study of selected materials to provide a working knowledge of structures, physical and chemical properties, development, evaluation and design. Experiments in applications, design limitations and cost.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** PKG 107 or instructor consent.

**Grading:** Graded

*NUFS 141B - Packaging Materials II, Plastics, Composites, and Glass*

3 unit(s)

In-depth study of plastic and glass materials in packaging; chemical and physical properties, design, manufacturing, compatibility, and evaluation. Experiments in applications, design limitations and cost.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** NUFS 31, PKG 107, PKG 141A or instructor consent.

**Grading:** Graded

*NUFS 144 - Food Culture: Consuming Passions*

3 unit(s)

Cultural aspects of food as related to regional, ethnic and religious influences. Issue based examination of effects of food behavior on culture, society, health, and economics.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 144ITL - Food Culture: Consuming Passions: International Experience*

3 unit(s)

Cultural aspects of food as related to regional, ethnic, and religious influences abroad. Issue-based examination of the effects of food behavior on culture, society, health, and economics abroad. Involves an international, study abroad experience.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded



*NUFS 146 - Packaging for Medical Devices and Pharmaceuticals*

3 unit(s)

Chemical and physical properties of medical device and pharmaceuticals packages, fabrications techniques, package testing and evaluation methods, regulatory requirements, ergonomics and child resistant packages, tamper evidence, shelf life and aging, coding.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B or instructor consent.

**Grading:** Graded

*NUFS 150 - Food and Nutritional Toxicology*

2 unit(s)

Major classes of food toxicants, their importance, properties, detection, metabolism, control and regulation; and basic issues in food/diet safety and toxicology.

**Prerequisite(s):** NUFS 103, CHEM 30B or CHEM 8; introductory courses in nutrition and biology and instructor consent.

**Grading:** Graded

*NUFS 156 - Packaging Machinery Systems*

3 unit(s)

Evaluation of packaging machinery as a subset of a packaging production system. Component selection, design, and implementation of package filling lines in a production facility. Package design requirements for filling lines.

*Lecture 2 hours/Lab 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, MATH 70, MATH 71 or MATH 71X, STAT 95.

**Grading:** Graded

*NUFS 158 - Protective Package Design and Testing*

3 unit(s)

In-depth study of protective packaging dynamics; theory and practice of shock, vibration, compression, humidity, temperature extremes. Measurement and analysis of the dist environment, product fragility, package design principles, package testing and evaluation.

*Lecture 2 hours/Lab 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, MATH 70, MATH 71 or MATH 71X, STAT 95.

**Grading:** Graded

*NUFS 159 - Packaging Material Handling and Distribution*

3 unit(s)

Transportation, handling, and storage of packaged goods. Transportation modes, environment hazards, measurement techniques. Military and Hazmat packaging regulations and testing, classification of goods, legal requirements, export packaging.

**Prerequisite(s):** PKG 158 or instructor consent.

**Grading:** Graded

*NUFS 163 - Physical Fitness and Nutrition*

*3 unit(s)*

Use of scientific principles, scientific investigation, and current technological advances to assess the relationship between diet, physical fitness, and disease. Examine scientific literature to evaluate the effects of nutritional intervention on exercise performance.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NUFS 169 - Food Packaging and Preservation*

*3 unit(s)*

This course investigates the interaction of food processing and packaging technology. Content includes food chemistry, microbiology in foods, food processing, and finally how packaging augments these areas in food protection and preservation.

**Prerequisite(s):** PKG 107 or instructor consent.

**Grading:** Graded

*NUFS 170 - Packaging Development and Management*

*3 unit(s)*

Capstone course emphasizing development and evaluation of packaging systems. Specifications and design, marketing criteria, package production, distribution performance, legal and environmental evaluations.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, PKG 156, PKG 158 or instructor consent.

**Grading:** Graded

*NUFS 180 - Individual Studies*

*1-6 unit(s)*

Individual work for majors or minors on special topics by arrangement.

**Prerequisite(s):** NUFS 8; instructor and department chair consent during semester prior to enrollment.

**Grading:** Credit/No Credit

*NUFS 190 - Nutrition Education and Counseling*

*3 unit(s)*

Education principles and behavior change theories; counseling and communication techniques for nutritionists and

dietitians working with individuals and groups.

**Prerequisite(s):** NUFS 106A or Instructor Consent

**Grading:** Graded

*NUFS 192 - Field Experience in Nutrition and Food Science and Packaging Technology*

1-6 unit(s)

Practical application of academic principles in nutrition, food science, packaging, dietetics food management, nutrition education, and/or sports nutrition. Repeatable for a maximum of 6 units.

*Misc/Lab: Supervision 3 to 18 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Senior standing in NUFS; instructor consent by end of prior semester.

**Grading:** Credit/No Credit

*NUFS 192I - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*NUFS 194 - Entrepreneurial Nutrition*

1 unit(s)

Introduction to entrepreneurial nutrition including professional roles, skills and opportunities.

**Prerequisite(s):** ENGL 1A or instructor consent.

**Grading:** Graded

*NUFS 201 - Colloquium in Nutrition, Food Science and Packaging*

3 unit(s)

Presentation and discussion of original research or specialized studies in Nutrition, Food Science and Packaging by graduate students, faculty & guest speakers.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*NUFS 216 - Seminar in Food Chemistry and Packaging*

3 unit(s)

Chemical and physical properties of food constituents as they relate to food quality, functionality and the use of proper packaging techniques to preserve nutritive value.

*Misc/Lab: Lecture 3 hours.*

**Prerequisite(s):** NUFS 103.

**Grading:** Graded

*NUFS 217 - Issues in Nutrition, Food and Packaging*

3 unit(s)

Discussion and critical evaluation of advanced topics in nutritional science, food science and technology, foodservice management, and packaging.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

*Repeatable for credit.*

**Prerequisite(s):** Passing score on NUFS competency exam in emphasis area.

**Corequisite(s):** PH 167 or STAT 115.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*NUFS 219A - Advanced Nutrition and Metabolism*

3 unit(s)

Advanced seminar course in human nutrition and metabolism that covers sources and interactions among dietary constituents, digestion and absorption, transport, processing storage, and catabolism and excretion as well as the regulation of metabolic homeostasis in normal healthy individuals.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** NUFS 108A & NUFS 109 or equivalent advance courses in Human nutrition and Metabolism, CHEM 132 or equivalent, BIOL 66 or equivalent, advanced course in statistics or biostatistics, or Consent of Instructor.

**Grading:** Graded

*NUFS 219B - Seminar in Advanced Topics in Human Nutrition & Dietetics*

3 unit(s)

Advanced seminar on selected topics in human nutrition and dietetics such as: sources and interactions among dietary constituents, nutrition and disease, community nutrition, nutrition education, hunger and environmental nutrition, sustainability, nutrition and culture, and issues of social justice.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*NUFS 220A - Advanced Medical Nutrition Therapy*

3 unit(s)

Assessment and evaluation of nutritional status; diet planning in health and disease; counseling techniques; and medical documentation.

**Prerequisite(s):** NUFS 110A and NUFS 110B (each with a grade of "C" or better).

**Grading:** Graded

*NUFS 242 - Advanced Foodservice/Restaurant Management*

3 unit(s)

Quantitative and qualitative analyses of foodservice/restaurant operations as bases for managerial decision-making.

*Misc/Lab: Lecture 3 hours.*

**Prerequisite(s):** NUFS 113.

**Grading:** Graded

*NUFS 260 - Multidisciplinary Health Promotion in Later Life*

*3 unit(s)*

Multidisciplinary assessment and planning. Principles of promoting health and preventing disability in later life. Physical, psychological, social, cultural, spiritual, and environmental factors that affect length and quality of life.

**Prerequisite(s):** BIOL 66 or GERO 108 or instructor consent.

**Grading:** Graded

*NUFS 270 - Package Design for End Use*

*3 unit(s)*

Current Package Design and Influences on Designs

**Grading:** Graded

*NUFS 280A - Dietetic Internship*

*1-12 unit(s)*

Supervised professional field experience to fulfill ADA eligibility requirements for registered dietitian examination.

**Prerequisite(s):** DPD or instructor consent.

**Grading:** Credit/No Credit

**Note(s):** Course can be taken for 1, 3, 6, 9 or 12 units.

*NUFS 295A - Research Methodology*

*3 unit(s)*

Introduction to scientific methodology, and research design; including refining scholarly search strategies to build a strong scientific base for research, development of research design, data collection, analysis, interpretation and application of research in nutrition, food science and packaging.

**Prerequisite(s):** NUFS 217; Completion of upper division statistics course with a grade of "C or better"

**Corequisite(s):** Current or previous enrollment or 1 unit NUFS 298 or NUFS 299

**Grading:** Graded

*NUFS 298 - Special Studies in Nutrition, Food Science and Packaging*

*1-6 unit(s)*

Advanced individual research and projects.

**Prerequisite(s):** Consent of graduate advisor.

**Grading:** Mandatory CR/NC/RP

*NUFS 299 - Master's Thesis*

1-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

*NUFS 1290R - Culminating Experience Supervision*

1 unit(s)

This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Existing RP grade in a graduate-level thesis or project course

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*PH 101B - Computer Applications for Professionals*

3 unit(s)

(Formerly HS 101B) Computer applications for storage, editing, communication, managing, composition and processing of information. Focus on providing information and experience in using standard software packages for word processing, data management, graphics and statistics in educational and professional applications.

*Lecture 2 hours/Lab 2 hours*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Upper division standing.

*PKG 107 - Principles of Packaging*

3 unit(s)

Basic knowledge of packaging functions, materials and industry. A variety of packaging topics including distribution systems, packaging development, package design, legislation, regulations, societal and environmental issues, ergonomics and packaging careers.

**Prerequisite(s):** ENGL 1A or equivalent.

**Grading:** Graded

*PKG 120 - Artios CAD For Packaging*

3 unit(s)

Prepares students for ArtiosCAD (a packaging design tool common to the folding carton and corrugated industries). Introduces basic commands of ArtiosCAD to draw and design the representations for different products. Students use the structure database, change from 2D to 3D models, and make simple animations.

*Misc/lab: 2 hours lecture/ 2 hours activity*

**Grading:** Graded

*PKG 121 - Solidworks For Packaging*

3 unit(s)

Prepare students for SolidWorks (a computer drawing tool) so they can generate 3-D drawings suitable for specifications and transference to computer-driven cutting tables and 3-D printers to make prototype packages.

*Misc/Lab: 2 hours lecture/ 2 hours lab*

**Grading:** Graded

*PKG 141A - Packaging Materials I, Paper, Metal, and Wood Based*

3 unit(s)

In-depth study of selected materials to provide a working knowledge of structures, physical and chemical properties, development, evaluation and design. Experiments in applications, design limitations and cost.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** PKG 107 or instructor consent.

**Grading:** Graded

*PKG 141B - Packaging Materials II, Plastics, Composites, and Glass*

3 unit(s)

In-depth study of plastic and glass materials in packaging; chemical and physical properties, design, manufacturing, compatibility, and evaluation. Experiments in applications, design limitations and cost.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** NUFS 31, PKG 107, PKG 141A or instructor consent.

**Grading:** Graded

*PKG 146 - Packaging for Medical Devices and Pharmaceuticals*

3 unit(s)

Chemical and physical properties of medical device and pharmaceuticals packages, fabrications techniques, package testing and evaluation methods, regulatory requirements, ergonomics and child resistant packages, tamper evidence, shelf life and aging, coding.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B or instructor consent.

**Grading:** Graded

*PKG 152 - Globalization and the Environment*

3 unit(s)

Scientific approach to goods distribution worldwide, and environmental consequences of shipping materials and packaging, which when discarded become waste. Mutual interests of commerce and environment.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PKG 156 - Packaging Machinery Systems*

3 unit(s)

Evaluation of packaging machinery as a subset of a packaging production system. Component selection, design, and implementation of package filling lines in a production facility. Package design requirements for filling lines.

Lecture 2 hours/Lab 2 hours.

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, MATH 70, MATH 71 or MATH 71X, STAT 95.

**Grading:** Graded

*PKG 158 - Protective Package Design and Testing*

3 unit(s)

In-depth study of protective packaging dynamics; theory and practice of shock, vibration, compression, humidity, temperature extremes. Measurement and analysis of the dist environment, product fragility, package design principles, package testing and evaluation.

Lecture 2 hours/Lab 2 hours.

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, MATH 70, MATH 71 or MATH 71X, STAT 95.

**Grading:** Graded

*PKG 159 - Packaging Material Handling and Distribution*

3 unit(s)

Transportation, handling, and storage of packaged goods. Transportation modes, environment hazards, measurement techniques. Military and Hazmat packaging regulations and testing, classification of goods, legal requirements, export packaging.

**Prerequisite(s):** PKG 158 or instructor consent.

**Grading:** Graded

*PKG 169 - Food Packaging and Preservation*

3 unit(s)

This course investigates the interaction of food processing and packaging technology. Content includes food chemistry, microbiology in foods, food processing, and finally how packaging augments these areas in food protection and preservation.

**Prerequisite(s):** PKG 107 or instructor consent.

**Grading:** Graded

*PKG 170 - Packaging Development and Management*



3 unit(s)

Capstone course emphasizing development and evaluation of packaging systems. Specifications and design, marketing criteria, package production, distribution performance, legal and environmental evaluations.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** PKG 107, PKG 141A, PKG 141B, PKG 156, PKG 158 or instructor consent.

**Grading:** Graded

*PKG 180 - Individual Studies*

1-6 unit(s)

Individual work for majors or minors on special topics by arrangement.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** PKG 107; instructor and department chair consent during semester prior to enrollment.

**Grading:** Credit/No Credit

*PKG 270 - Package Design for End Use*

3 unit(s)

Current Package Design and Influences on Designs

**Grading:** Graded

## Department of Occupational Therapy

**Office:** Central Classroom Building 203

**Telephone:** 408-924-3070

**Email:** occupationaltherapyadmin@sjsu.edu

**Website:** www.sjsu.edu/occupationaltherapy

### Professors

Lynne Andonian  
Winifred Schultz-Krohn, Chair

### Associate Professors

Megan Chang  
Carolyn Glogoski, Faculty Early Retirement Program  
Jerilyn "Gigi" Smith

### Assistant Professors

Luis Arabit  
Deborah Bolding  
Chiao-Ju Fang

# Overview

The SJSU Department of Occupational Therapy offers the oldest accredited OT program in the CSU system. Founded in 1943, the Master of Science in Occupational Therapy degree program is designed for those who have already earned a baccalaureate degree in another field. The program of study enables students to obtain the education and degree necessary to be eligible to practice as an occupational therapist. Once the MS degree in Occupational Therapy is complete, including the successful completion of the OCTH 201A and OCTH 201B courses, the student is eligible to sit for the national certification examination. Successful completion of the examination qualifies the candidate to apply for national certification and state licensure.

The MS, Occupational Therapy program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 6116 Executive Blvd., Suite 200, North Bethesda, MD 20852-4929. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA (2682) and the web address is [www.acoteonline.org](http://www.acoteonline.org). NBCOT School Program Performance Data is also available.

Courses are taught by nationally recognized faculty who have clinical, research and teaching expertise across a broad range of traditional and emerging practice areas. The Student Occupational Therapy Association (SOTA) provides a myriad of social, educational and leadership opportunities. Always in high demand, our graduates are hired by private and public health care institutions and agencies.

## Master

### Occupational Therapy, MS

The SJSU Department of Occupational Therapy offers the oldest accredited OT program in the CSU system. Founded in 1943, the Master of Science in Occupational Therapy degree program is designed for those who have already earned a baccalaureate degree in another field. The program of study enables students to obtain the education and degree necessary to be eligible to practice as an occupational therapist. Once the MS degree in Occupational Therapy is complete, including the successful completion of the OCTH 201A and OCTH 201B courses, the student is eligible to sit for the national certification examination. Successful completion of the examination qualifies the candidate to apply for national certification and state licensure.

The MS, Occupational Therapy program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery, Suite 200, Bethesda, MD 20814-3449. ACOTE's telephone number, c/o AOTA is (301) 652-AOTA and its web address is [www.acoteonline.org](http://www.acoteonline.org). NBCOT School Program Performance Data is also available.

See the department website for more information: [www.sjsu.edu/occupationaltherapy](http://www.sjsu.edu/occupationaltherapy).

## Admission Requirements

The curriculum of the Master of Science in Occupational Therapy degree program is designed for those who have already earned a baccalaureate degree in another field. The program of study enables students to obtain the education and degree necessary to be eligible to practice as an occupational therapist. Once the MS degree in Occupational Therapy is complete, including the successful completion of the OCTH 201A and OCTH 201B courses, the student is eligible to sit for the national certification examination. Successful completion of the examination qualifies the candidate to apply for national certification and state licensure. Applications are accepted beginning October 1 for the subsequent Fall semester. It is important that students apply as early as possible.

# University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Occupational Therapy program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Admission to Classified Graduate Standing

Prospective students must meet the following prerequisites. All prerequisite courses must be completed before acceptance into the program:

1. Cumulative GPA of 3.0 (on 4.0 scale) in the last 60 semester units (or 90 quarter units) of coursework and a minimum grade of B or better for all prerequisite courses.
2. Minimum of 80 hours volunteer experience or equivalent paid work experience in 2 different types of therapeutic settings; 60 of the hours must be completed under the supervision of an occupational therapist. The additional 20 hours can be completed in a community service setting. Hours must be verified by supervisor on Evaluation Form for Volunteer Experience available on the Department of Occupational Therapy website; forms are submitted at the time of application.
3. Completion of Student Information Form available on the OTCAS and subsequent submission of the first page of the OTCAS application form and the general essay from the OTCAS application directly to the Occupational Therapy department.
4. Human Anatomy with human cadaver laboratory (virtual laboratory acceptable), 3 semester units or 4 quarter units.
5. Physiology with laboratory, 3 semester units or 4 quarter units.
6. General psychology course, 3 semester or 4 quarter units.
7. Introductory Sociology or Cultural Anthropology course, 3 semester or 4 quarter units.
8. Abnormal Psychology course, 3 semester or 4 quarter units.
9. One college-level skills course may be taken through adult education. The purpose of the course is to have students work with an artistic medium. Acceptable courses include: Ceramics, painting, weaving, graphic arts and woodworking. Previous work may be accepted as fulfilling this requirement at the discretion of the Admissions Committee.
10. Statistics course, either an upper division course offered by the departments of education, social sciences, psychology or division of health professions or a lower division statistics course that covers correlations and analysis of variance, 3 semester or 4 quarter units. Course must be completed within seven years of the application.
11. Neuroanatomy - Course available online through SJSU Occupational Therapy program. Courses from other institutions may also be acceptable at the discretion of the Admissions Committee. 3 semester or 4 quarter units.
12. Evidence of understanding of occupational therapy and defined career goals in relation to that profession as stated on the Student Information Form and/or accompanying personal written statements (see #3 above).
13. Ability to write as demonstrated in the student information form (see #3 above), transcripts of all previous work submitted and any correspondence.
14. A GRE (Graduate Record Examination) combined minimum Quantitative and Verbal score of 297 is required. In addition, a minimum GRE verbal score of 153 is required and a minimum Analytical Writing score of 4.0 is required; a score of 4.5 or higher in Analytical writing is desired. Note: Scores must be sent to both the University and the Department of Occupational Therapy.

15. Three letters of recommendation from former instructors, employers, supervisors, or other individuals knowledgeable about the candidate's academic abilities, capacity for goal-directed behavior, and the ability to integrate and synthesize ideas. One letter must be from an academic instructor.
16. Personal interview by Graduate Committee may be requested. If so, the student will be notified. If transportation, cost, and time are prohibitive, a phone or online interview can be arranged.

All prerequisite courses must be completed before acceptance into the program. All transcripts must be sent to OTCAS in addition to the University. For current admission procedures, please visit [www.sjsu.edu/occupationaltherapy](http://www.sjsu.edu/occupationaltherapy).

These requirements exist for all prospective students holding baccalaureate degrees in other disciplines. The department reviews completed files and makes recommendations for acceptance or denial to the SJSU Admissions Office.

## Requirements for Advancement to Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). Successful completion of OCTH 245, including passing the final written paper in this course with a grade of "B" or better, fulfills the GWAR in this program.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

### Occupational Therapy International Experience Requirement

To satisfy the Occupational Therapy Department international requirement, students must study abroad for at least nine days in an approved program. (Exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences on the basis of compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chhs](http://www.sjsu.edu/chhs).

### Culminating Fieldwork Requirement

Following completion of the academic coursework (60 units), students must be enrolled in and complete two Fieldwork Courses, OETH 201A and OETH 201B, prior to the University awarding the Master of Science degree in Occupational Therapy.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan B (Project)

Students in this program fulfill their culminating experience requirement with a Plan B (Project). The Comprehensive Master's project requires critical analysis and synthesis of information gathered, crafted into a publishable paper with a poster and oral presentation. Students will enroll in 3 units of OETH 295 - Advanced Research Methods in Occupational Therapy which supports inquiry into advanced topics in occupational therapy practice, including theoretical and clinical problems.

### Occupational Therapy International Experience Requirement

To satisfy the Occupational Therapy Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience](http://www.sjsu.edu/chahs/international-experience).

## Master's Requirements (72 units)

### Core Courses (57 units)

- OETH 211 - Historical and Theoretical Foundations of Occupational Therapy 3 *unit(s)*
- OETH 212 - Occupations through the Lifespan 3 *unit(s)*
- OETH 213 - Professional Development I 3 *unit(s)*
- OETH 216 - Evaluation in Occupational Therapy 3 *unit(s)*
- OETH 221 - Occupational Analysis 3 *unit(s)*
- OETH 222 - Functional Kinesiology for Occupational Therapists 3 *unit(s)*
- OETH 224 - Occupational Therapy Practice in the Community I 3 *unit(s)*
- OETH 226 - Occupational Therapy with Children 3 *unit(s)*
- OETH 233 - Professional Development II 3 *unit(s)*
- OETH 234 - Occupational Therapy Practice in the Community II 3 *unit(s)*
- OETH 236 - Occupational Therapy with Youth 3 *unit(s)*
- OETH 245 - Introduction to Research Methods 3 *unit(s)* (GWAR)
- OETH 246 - Occupational Therapy with Young Adults 3 *unit(s)*
- OETH 256 - Occupational Therapy with Middle Aged Adults 3 *unit(s)*
- OETH 266 - Occupational Therapy with Older Adults 3 *unit(s)*
- OETH 275 - Evidence Based Practice in Occupational Therapy 3 *unit(s)*
- OETH 276 - Practicum and Seminar 1A 3 *unit(s)*
- OETH 286 - Practicum and Seminar 1B 4 *unit(s)*

### Complete One Course (Chosen with Advisor):

- OCTH 210 - Seminar in Occupational Therapy 2-3 *unit(s)*
- OCTH 210ITL - Seminar in Occupational Therapy: International Experience 2-3 *unit(s)*

### Culminating Fieldwork (12 units)

- OCTH 201A - Field Work Experience 3-6 *unit(s)* (6 *units required*)
- OCTH 201B - Advanced Field Work Experience 3-6 *unit(s)* (6 *units required*)

### Culminating Experience (3 units)

- OCTH 295 - Advanced Research Methods in Occupational Therapy 3 *unit(s)*

### Total Units Required (72 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point average of 3.0 in order to graduate.

## Certificate

### Mindfulness-Based Health and Human Services Certificate (Graduate)

This program will provide practitioners of healthcare and human services the opportunity to develop, experience, and practice their profession through a mindfulness-based practice model and lens. The program provides curricular opportunities to build essential skills for developing mindfulness-based practices. Developing skillful and steadfast mindful self-care and compassion in the midst of our complex work is a primary focus of this training program. From this embodied experience of the mindfulness-based lens, the program will provide guidance and mentorship to appropriately integrate mindfulness into your work.

### Certificate Requirements (9 units)

#### Certificate Prerequisites

Mindfulness-Based Stress Reduction (MBSR) Course, 8-week (9-10 session [2.5 to 3 hours per week] with All-Day Retreat Session) and proof of license as healthcare or human services professional from an accredited institution.

### Required Courses (9 units)

- OCTH 205 - Mindfulness of Self in Daily Life 3 *unit(s)*
- OCTH 207 - Mindfulness and Quality of Participation in Daily Occupations 2 *unit(s)*
- OCTH 225 - Capstone Evidence-Based MBHHS Practice Project 3 *unit(s)*

## Total Units Required (9 units)

### *OCTH 156 - Independent Living for the Aging and Disabled*

3 unit(s)

Identification and application of basic management concepts used by the disabled and aging in daily living.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

### *OCTH 180 - Individual Studies*

1-4 unit(s)

Investigation of special problems not covered in regular courses, including research project and/or field experience. Course is repeatable for credit in the same term.

**Prerequisite(s):** Upper division majors with department chair approval.

**Grading:** Credit/No Credit

### *OCTH 180H - Individual Studies*

1-3 unit(s)

Individual project or special study in an area not covered in the regular curriculum. Results presented in departmental seminar and written report. An honors course. Repeatable: Repeatable for credit.

**Prerequisite(s):** 3.0 overall GPA, 3.5 GPA in major.

**Grading:** Credit/No Credit

### *OCTH 190 - Foundations of Neuroscience for Occupational Therapy*

3 unit(s)

Foundations of neuroscience related to occupational performance. Topics include an overview of anatomy and physiology of the human nervous system and the interaction among the central, peripheral and autonomic nervous systems related to function.

**Prerequisite(s):** BIOL 65 or BIOL 65O, BIOL 66

**Grading:** Graded

### *OCTH 192I - Int'l Program Studies*

1-6 unit(s)

Course may be repeated for credit for up to 12 units.

**Grading:** Mixed Grading

### *OCTH 201A - Field Work Experience*

3-6 unit(s)

Three months in full-time fieldwork is required to complete this course. Completion of this course is required for Master of Science in Occupational Therapy degree.

*Course is repeatable 3 times for up to 9 units.*

**Prerequisite(s):** OCTH 276 and OCTH 286.

**Grading:** Credit / No Credit

**Note(s):** Travel to facility is the student's responsibility.

*OCTH 201B - Advanced Field Work Experience*

*3-6 unit(s)*

Three months in full-time fieldwork is required to complete this course. Completion of this course is required for the Master of Science in Occupational Therapy degree.

*Course is repeatable 3 times for up to 9 units.*

**Prerequisite(s):** OCTH 276 and OCTH 286.

**Grading:** Credit / No Credit

**Note(s):** Travel to facility is the student's responsibility.

*OCTH 205 - Mindfulness of Self in Daily Life*

*3 unit(s)*

Mindfulness-based exploration of self in personal life. Focus on personal mindfulness practice informed by the study of the foundations of mindfulness, self-compassion, and interpersonal mindfulness practice which forms the basis for integrating and sustaining mindfulness in daily life.

**Prerequisite(s):** MBSR program.

**Grading:** Graded

*OCTH 207 - Mindfulness and Quality of Participation in Daily Occupations*

*2 unit(s)*

Explore links among quality of participation in daily life, inter-occupational relationship patterns, level of attention, intention, and attitudes we bring to healthcare and human services practice. Examine relationships of automatic patterns of engagement on health and wellbeing. Implement mindfulness-based approaches into inter-occupational relationships.

**Prerequisite(s):** OCTH 205.

**Grading:** Graded

*OCTH 209 - MBOT Intensive Training Retreat*

*2 unit(s)*

The intensive 5-day residential training retreat in Mindfulness-Based Occupational Therapy (MBOT) includes periods of silent mindfulness practice and time for group discussion and learning focused on further developing participants' skills in bringing mindfulness into their occupational therapy practice.

**Prerequisite(s):** MBSR, OCTH 205

**Grading:** Mandatory CR/NC/RP

*OCTH 210 - Seminar in Occupational Therapy*



2-3 unit(s)

Seminar on special topics in occupational therapy. Students will develop knowledge and skills in a selected practice area.

**Grading:** Graded

*OCTH 210ITL - Seminar in Occupational Therapy: International Experience*

2-3 unit(s)

Gain cross-cultural and -national insight into political, social, cultural, economic factors that influence occupational therapy services outside of the U.S, define the role of occupational therapy and therapists as global citizens, engage local people in its services, explore social,occupational justice issues.

**Grading:** Graded

*OCTH 211 - Historical and Theoretical Foundations of Occupational Therapy*

3 unit(s)

History of occupational therapy practice, evolution of the concepts and values underlying its theoretical constructs, and the leaders who shaped the profession. Development of ideas, values, and beliefs concerning occupation within the context of historical, social, and scientific advances.

**Grading:** Graded

*OCTH 212 - Occupations through the Lifespan*

3 unit(s)

The development of occupations, their meaning and role in human development through the lifespan, and the conditions that create barriers to engagement in meaningful occupations. Students will analyze how interactions between self and environment influence occupational participation at all ages.

**Grading:** Graded

*OCTH 213 - Professional Development I*

3 unit(s)

Introduces occupational therapy as a profession and addresses professional organizations, roles, attitudes, behaviors, and ethics. Explores the influence of culture on worldview, communication, and health behaviors. Students engage in personal and professional self-assessment and goal setting for professional development.

**Grading:** Graded

*OCTH 216 - Evaluation in Occupational Therapy*

3 unit(s)

The purpose and process of evaluation in determining need for and outcomes of intervention. Application of measurement theory, theoretical perspectives and practice models for selection, administration, and interpretation of appropriate instruments, including occupational profiles, skilled observation, interviews and standardized tests.

**Grading:** Graded

*OCTH 220 - Education and Occupational Therapy*

3 unit(s)

Study of learning theory and teaching strategies used in teaching occupational therapy and other health-related professions. Content includes learning styles, objective writing, utilization of media and evaluations.

**Grading:** Credit/No Credit

*OCTH 221 - Occupational Analysis*

3 unit(s)

Course focuses on analyzing occupations and occupational performance. Meaning and significance of competence, challenge, and success in occupations are explored through engagement in selected projects. Students learn to structure, adapt, plan, teach, and assess activities for therapeutic use.

**Grading:** Graded

*OCTH 222 - Functional Kinesiology for Occupational Therapists*

3 unit(s)

Study of body movements based on neurophysiological and biomechanical principles of joint and muscle action correlated with analysis of the body in motion, physiological effects of activity and adaptation to physical dysfunction.

**Grading:** Graded

*OCTH 223 - Compassionate Care for Self and Others in Occupational Therapy Practice*

2 unit(s)

Students will examine the relationship of mindful self and other compassion and how both relate to health, "psychological flourishing" (Germer & Neff, 2013), reduction of symptoms, motivation, and skills that enhance occupational therapy practice and client outcomes.

**Prerequisite(s):** MBSR program, OCTH 205, OCTH 207, OCTH 209

**Corequisite(s):** personal mindfulness practice

**Grading:** Graded

*OCTH 224 - Occupational Therapy Practice in the Community I*

3 unit(s)

Introduction to community focused interventions based on the social model of health and occupational justice concepts, designed to promote health, well-being, social inclusion, empowerment, and health disparity reduction for populations and communities. Focus is on emerging and non-traditional practice settings.

**Grading:** Graded

*OCTH 225 - Capstone Evidence-Based MBHHS Practice Project*

3 unit(s)

The emphasis of evidence-based practice for Mindfulness-Based Interventions in Healthcare and Human Services is on strategies for selecting, evaluating and analyzing professional literature and engaging in critical analysis of clinical and professional decision making and crafting into a publishable quality mindfulness-based intervention program.

**Prerequisite(s):** OCTH 205 and OCTH 207.

**Grading:** Graded

*OCTH 226 - Occupational Therapy with Children*

3 unit(s)

Occupational therapy practice for children from birth to early adolescence, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

**Grading:** Graded

*OCTH 230 - Management and Occupational Therapy*

3 unit(s)

Principles of ethical administrative, supervisory, and consultative practice in occupational therapy organizational settings. Students review the profession's ethics and learn ethical decision making. Basic grant writing skills and OT advocacy are also included.

**Grading:** Graded

*OCTH 233 - Professional Development II*

3 unit(s)

Deeper exploration into occupational therapy leadership, supervision, ethical conduct, advocacy, program development, and management principles related to current service models. Recent legislation and its impact on occupational therapy practice will be reviewed.

**Prerequisite(s):** OCTH 213

**Grading:** Graded

*OCTH 234 - Occupational Therapy Practice in the Community II*

3 unit(s)

Community focused seminar and practicum providing intervention in emerging and non-traditional practice settings and underserved communities. Seminars address the diverse dimensions of practice in the community related to needs assessment, the community site, program development and implementing occupational therapy services.

**Grading:** Graded

*OCTH 235 - Cultural Diversity in Occupational Therapy*

3 unit(s)

Roles of occupational therapist treating diverse populations is examined through exploration of professional culture, the cultures of poverty and disability, and cultures identified by ethnicity or lifestyle. Cultural variables include time, space, relationships, value, beliefs, communication, socioeconomics, gender and tradition.

**Grading:** Graded

*OCTH 236 - Occupational Therapy with Youth*

3 unit(s)

Occupational therapy practice for adolescents and young adults, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

**Grading:** Graded

*OCTH 245 - Introduction to Research Methods*

*3 unit(s)*

Introduction to research methodology and the process of critical inquiry. How one conducts research, including traditions and methods used in occupational therapy and how to understand research publications.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Introductory Statistics

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*OCTH 246 - Occupational Therapy with Young Adults*

*3 unit(s)*

Occupational therapy practice for young adults ages 25-40, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

**Grading:** Graded

*OCTH 256 - Occupational Therapy with Middle Aged Adults*

*3 unit(s)*

Occupational therapy practice for adults age 41-65, focusing on integrating knowledge of theoretical frameworks, practice settings, research evidence, clinical reasoning and regulatory and reimbursement policies in the provision of interventions for conditions and disorders experienced in this age group.

**Grading:** Graded

*OCTH 266 - Occupational Therapy with Older Adults*

*3 unit(s)*

Focuses on older adults whose occupational participation and wellness are affected by age associated change, illness, injury, or disability. The occupational therapy process is applied to facilitate independence, remediate dysfunction, adapt to disability, and enhance wellness and quality of life.

**Grading:** Graded

*OCTH 275 - Evidence Based Practice in Occupational Therapy*

*3 unit(s)*

Evidence based practice is explored through lecture, in-class activities and data base research. Emphasis is on strategies for selecting, evaluating and analyzing professional literature in clinical decision making and exploration of quantitative and qualitative analysis to support evaluation of literature.

**Prerequisite(s):** OCTH 245

**Grading:** Graded

*OCTH 276 - Practicum and Seminar 1A*

3 unit(s)

Introductory practicum and seminar in occupational therapy. Students will develop beginning observation, reasoning, and documentation skills through placement at practice sites, and explore the integration of evidence and theory in the practice of occupational therapy through online and on-campus seminars.

*Misc/Lab: Lecture 3 hours/Lab 3 hours.*

**Grading:** Credit/No Credit

*OCTH 286 - Practicum and Seminar 1B*

4 unit(s)

Clinical practice in occupational therapy. Students engage in direct intervention in departmental clinics. Seminars, in-service education, direct supervision, and one to one mentoring are used to develop practice skills.

*Misc/Lab: Lecture 4 hour/Supervision 3 hours.*

**Prerequisite(s):** OCTH 276

**Grading:** Credit/No Credit

*OCTH 290 - Thesis/Project Supervision*

1 unit(s)

Continued work on thesis or project.

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC/RP

*OCTH 292 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*OCTH 295 - Advanced Research Methods in Occupational Therapy*

3 unit(s)

Advanced topics in research methodology and critical inquiry. Instrument development, the human subjects review process, quantitative and qualitative data analysis, interpretation and reporting of results. Critical analysis and synthesis of the gathered information crafted into a publishable quality paper and oral presentation.

**Prerequisite(s):** OCTH 245 and OCTH 275

**Grading:** Credit/No Credit

*OCTH 298 - Supervised Study in Occupational Therapy*

1-3 unit(s)

Special problems assigned for individual study in the occupational therapy Master's program.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** OCH 286

**Grading:** Mandatory CR/NC/RP

## Department of Public Health and Recreation

*Formerly Health Science and Recreation*

**Office:** Spartan Complex, 201 - Public Health; 211 - Recreation

**Telephone:** 408-924-2971

**Email:** healthscience-group@sjsu.edu

**Website:** Public Health; Recreation Program

### Professors

Yoshitaka Iwasaki, Chair (Public Health)

Kathleen M. Roe (Public Health)

### Associate Professors

Anne Demers (Public Health)

Jane Pham (Public Health)

Miranda Worthen (Public Health)

### Assistant Professors

Monica Allen, Graduate Program Coordinator (Public Health)

Josh Baur, Recreation Program Coordinator (Public Health; Recreation)

Anji Buckner-Capone (Public Health)

Andrew Carter (Public Health)

Marcelle Dougan, Undergraduate Program Coordinator (Public Health)

Vicky Gomez (Public Health)

Jennifer Hartle (Public Health)

Michael Harvey (Public Health)

Susan Ross (Public Health; Recreation)

Jennie Zhang (Public Health)

## Overview

The Department of Public Health and Recreation prepares leaders and practitioners who promote health and improve the environments in which we live, work, learn, and play. We strive to embrace a Teacher-Scholar-Practitioner Model through student, alumni, faculty, and community engagement to advance practices in public health and recreation fields. Our undergraduate curriculum in public health examines the multiple dimensions/determinants of health (e.g., physical, emotional, social, environmental, and spiritual) and the scientific and practical basis for understanding and promoting health at the population level (including epidemiology, policies, and community health) to create the optimal, meaningful conditions for health and wellness for all. Founded in 1970, the Master of Public Health program (MPH) has been accredited by the Council on Education for Public Health (CEPH) since 1974 and is offered in two formats. Our campus format is regular session and offers the flexibility to complete the program full or part-time. Our synchronous online format is offered through the College of Professional and Global Education. Our MPH students engage in an integrated program of learning, scholarship, and internships in partnership with a diverse network of community agencies. Our recreation degree program, founded in 1947 (the oldest undergraduate recreation degree

program in the State of California), has a core curriculum continuously accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT) since 1987. We offer concentrations in Recreation Management and Recreation Therapy, as well as a minor in recreation and a minor in recreation and nature. We also plan to offer an innovative Master's Program in Recreation through Northern California CSU four-campus coalition.

All of our programs at both undergraduate and graduate levels incorporate student-centered curriculums with our commitment to community development, social justice orientations, interdisciplinary and intercultural/globalized approaches with its emphasis on rigor and innovation, high-impact experiential learning, and career-focused applied orientations. Developed by our recent strategic planning process, our new vision statement of the department is as follows - "We aspire to be innovators and leaders in learning and teaching, scholarship, and professional practice by integrating public health and recreation to ignite social change and work towards a more vibrant, prosperous, and just world where the optimal health and wellbeing of individuals and communities are achieved and sustained."

## Undergraduate

### Public Health, BS

- Department of Public Health and Recreation
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	32
Major Preparation	22
Major Core Requirements	39
Minor Requirement	15
University Electives	12
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major-Specific Graduation Requirements

All courses in Required for the Major Core must be completed with a grade of "C" or better to graduate. All other approved electives require a "C-" or better to graduate.

#### Health Science and Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chhs/students/international-experience/index.php](http://www.sjsu.edu/chhs/students/international-experience/index.php).

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (18 units)

Of the 33 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details. *Area V only - recommended use for International Experience.*

### American Institutions (6 units)

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

#### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

#### Chicana and Chicano Studies (6 units)



- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GWAR may be found at Graduation Writing Assessment Requirement (GWAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (22 units)

Students in this major must earn a grade of "C" or better in each of the courses required in the Preparation for the Major.

- BIOL 21 - Human Biology 3 *unit(s)* (B2B3)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1)  
*CHEM 1A or CHEM 1B may be used to fulfill the CHEM 30A major preparation course.*
- PH 1 - Understanding Your Health 3 *unit(s)* (E)
- PH 15 - Human Life Span 3 *unit(s)* (D1)
- PH 67 - Introductory Health Statistics 3 *unit(s)* (B4)  
*Any course that is currently articulated to STAT 95 may be used to fulfill the PH 67 preparation course for this major. UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*
- PH 99 - Introduction to Public Health 3 *unit(s)*

## Major Requirements (54 units)

Students must complete the following CORE courses with a grade of "C" or better to graduate. All other upper division electives require a "C-" or better to graduate.

## Core Courses (39 units)

- PH 102 - Health Team Building 3 *unit(s)*
- PH 103 - Introduction to Health Policy 3 *unit(s)*
- PH 104 - Community Health Promotion 4 *unit(s)*
- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)
- PH 158 - Health Communications 3 *unit(s)*
- PH 159 - Health Program Planning 3 *unit(s)* (Capstone)
- PH 161 - Epidemiology 3 *unit(s)*
- PH 162 - Health Care Organization and Admin 3 *unit(s)*
- PH 165A - Public Health Leadership Series I 1 *unit(s)*
- PH 165B - Public Health Leadership Series II 1 *unit(s)*
- PH 165C - Public Health Leadership Series III 1 *unit(s)*
- PH 166 - Field Experience Seminar 2 *unit(s)*

- PH 167 - Biostatistics 3 *unit(s)*
- PH 172 - Contemporary Environmental Health Issues 3 *unit(s)* (R)

**Population Health Elective** - Choose one course from the following:

- PH 145 - Community Mental Health 3 *unit(s)* or
- PH 176 - Introduction to Global Health 3 *unit(s)*

## Minor Requirement (15 units)

Students must complete an appropriate minor in consultation with advisor. Suggested minors:

- African American Studies Minor
- Biological Science Minor
- Business Minor
- Chicana and Chicano Studies Minor
- Child and Adolescent Development Minor
- Environmental Studies Minor
- Human Rights Minor
- Journalism Minor
- Justice Studies Minor
- Kinesiology Minor
- Nutrition Science and Food Science Minor
- Public Relations Minor
- Recreation Minor
- Urban Studies Minor

## College International Experience (0-3 units)

**(Area V Recommended - see the Upper Division General Education Requirement section)**

- In consultation with advisor, select an International Experience course 0-3 *unit(s)*

## University Electives (12 units)

- RECL 10 - Creating a Meaningful Life (E) is recommended.

Additional courses selected in consultation with major advisor.

## Total Units Required (120 units)

# Public Health, Concentration in Community Health Education, BS

- Department of Public Health and Recreation
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	32
Major Preparation	22
Major Core Requirements	39
Concentration Requirements	18
University Electives	9
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in Required for the Major Core must be completed with a grade of "C" or better to graduate. All other approved electives require a "C-" or better to graduate.

### Public Health and Recreation International Experience Requirement

To satisfy the Public Health and Recreation Department international experience requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (18 units)

Of the 33 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details. *Area V only - recommended use for International Experience.*

## American Institutions (6 units)

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (22 units)

Students in this major must earn a grade of "C" or better in each of the courses required in the Preparation for the Major.

- BIOL 21 - Human Biology 3 *unit(s)* (B2B3)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1)  
*CHEM 1A or CHEM 1B may be used to fulfill the CHEM 30A major preparation course.*
- PH 1 - Understanding Your Health 3 *unit(s)* (E)
- PH 15 - Human Life Span 3 *unit(s)* (D1)
- PH 67 - Introductory Health Statistics 3 *unit(s)*

*Any course that is currently articulated to STAT 95 may be used to fulfill the PH 67 preparation course for this major. UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*

- PH 99 - Introduction to Public Health 3 unit(s)

## Major Requirements (57 units)

Students must complete the following CORE courses with a grade of "C" or better to graduate. All other upper division electives require a "C-" or better to graduate.

### Core Courses (39 units)

- PH 102 - Health Team Building 3 unit(s)
- PH 103 - Introduction to Health Policy 3 unit(s)
- PH 104 - Community Health Promotion 4 unit(s)
- PH 135 - Health Issues in a Multicultural Society 3 unit(s) (S)
- PH 158 - Health Communications 3 unit(s)
- PH 159 - Health Program Planning 3 unit(s)
- PH 161 - Epidemiology 3 unit(s)
- PH 162 - Health Care Organization and Admin 3 unit(s)
- PH 165A - Public Health Leadership Series I 1 unit(s)
- PH 165B - Public Health Leadership Series II 1 unit(s)
- PH 165C - Public Health Leadership Series III 1 unit(s)
- PH 166 - Field Experience Seminar 2 unit(s)
- PH 167 - Biostatistics 3 unit(s)
- PH 172 - Contemporary Environmental Health Issues 3 unit(s) (R)

**Population Health Elective** - Complete the following:

- PH 176 - Introduction to Global Health 3 unit(s)

### Concentration Courses (18 units)

- PH 145 - Community Mental Health 3 unit(s)
- PH 164 - Health Services and Social Marketing 3 unit(s)
- PH 168 - Health Education Theory and Methods 3 unit(s)
- PH 183 - Special Topics in Community Health Education 3 unit(s)
- PH 188 - Community Health Assessment 3 unit(s)
- PH 189 - Community Health Education Capstone 3 unit(s)

### College International Experience (0-3 units)

**(Area V Recommended - see the Upper Division General Education Requirement section)**

- In consultation with advisor, select an International Experience course 0-3 unit(s)

### University Electives (9 units)

- RECL 10 - Creating a Meaningful Life (E) is recommended.

Additional courses selected in consultation with major advisor.

## Total Units Required (120 units)

# Public Health, Concentration in Population Data Science, BS

- Department of Public Health and Recreation
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	32
Major Preparation	22
Major Core Requirements	39
Concentration Requirements	18
University Electives	9
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in Required for the Major Core must be completed with a grade of "C" or better to graduate. All other approved electives require a "C-" or better to graduate.

### Public Health and Recreation International Experience Requirement

To satisfy the Public Health and Recreation Department international experience requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Health and Human Sciences based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (18 units)

Of the 33 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details. *Area V only - recommended use for International Experience.*

### American Institutions (6 units)

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 unit(s) (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 unit(s) (D3+US123)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 unit(s) (D2)
- AAS 33B - Asian Americans in U.S. History II 3 unit(s) (D3+US123)

#### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 unit(s) (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 unit(s) (D3+US23)

#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (D3+US123)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (22 units)

Students in this major must earn a grade of "C" or better in each of the courses required in the Preparation for the Major.

- BIOL 21 - Human Biology 3 unit(s) (B2B3)
- BIOL 65 - Human Anatomy 4 unit(s) (B2B3)
- CHEM 30A - Introductory Chemistry 3 unit(s) (B1)  
*CHEM 1A and CHEM 1B may be used to fulfill the CHEM 30A major preparation course.*
- PH 1 - Understanding Your Health 3 unit(s) (E)
- PH 15 - Human Life Span 3 unit(s) (D1)
- PH 67 - Introductory Health Statistics 3 unit(s)  
*Any course that is currently articulated to STAT 95 may be used to fulfill the PH 67 preparation course for this major. UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*
- PH 99 - Introduction to Public Health 3 unit(s)

## Major Requirements (57 units)

Students must complete the following CORE courses with a grade of "C" or better to graduate. All other upper division electives require a "C-" or better to graduate.

### Core Courses (39 units)

- PH 102 - Health Team Building 3 unit(s)
- PH 103 - Introduction to Health Policy 3 unit(s)
- PH 104 - Community Health Promotion 4 unit(s)
- PH 135 - Health Issues in a Multicultural Society 3 unit(s) (S)
- PH 158 - Health Communications 3 unit(s)
- PH 159 - Health Program Planning 3 unit(s)
- PH 161 - Epidemiology 3 unit(s)
- PH 162 - Health Care Organization and Admin 3 unit(s)
- PH 165A - Public Health Leadership Series I 1 unit(s)
- PH 165B - Public Health Leadership Series II 1 unit(s)
- PH 165C - Public Health Leadership Series III 1 unit(s)
- PH 166 - Field Experience Seminar 2 unit(s)
- PH 167 - Biostatistics 3 unit(s)
- PH 172 - Contemporary Environmental Health Issues 3 unit(s) (R)

**Population Health Elective** - Choose one course from the following:

- PH 176 - Introduction to Global Health 3 unit(s)
- PH 145 - Community Mental Health 3 unit(s)

### Concentration Courses (18 units)

- PH 191 - Applied Epidemiology 3 unit(s)



- PH 193 - Special Topics in Population Data Science 3 *unit(s)*
- PH 195 - Fundamentals of Data Management and Presentation 3 *unit(s)*
- PH 197 - Quantitative Analysis 3 *unit(s)*
- PH 198 - Qualitative Analysis 3 *unit(s)*
- PH 199 - Population Data Science Capstone 3 *unit(s)*

## College International Experience (0-3 units)

**(Area V Recommended - see the Upper Division General Education Requirement section)**

- In consultation with advisor, select an International Experience course 0-3 *unit(s)*

## University Electives (9 units)

- RECL 10 - Creating a Meaningful Life (E) is recommended.

Additional courses selected in consultation with major advisor.

## Total Units Required (120 units)

## Recreation, BS

The Recreation degree program, founded in 1947 by the Department of Public Health and Recreation, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	50
Major Preparation	6
Major Requirements	64
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience/](http://www.sjsu.edu/chahs/international-experience/).

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (50 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement*

## Major Preparation (6 units)

- HS / PH 74 - Healthy Communities 3 *unit(s)*  
or PH 99 - Introduction to Public Health 3 *unit(s)*
- RECL 100W - Writing Workshop 3 *unit(s)* (Z)

## Major Requirements (64 units)

### Core Courses (32 units)

- RECL 90 - Foundations of Recreation Parks & Tourism 3 *unit(s)*
- RECL 110 - Leisure, Life and Contemporary Society 3 *unit(s)*
- RECL 112 - Foundations of Recreation Therapy 3 *unit(s)*
- RECL 132 - Recreation Program Planning 3 *unit(s)*
- RECL 135 - Planning and Managing Rec Areas & Facil 3 *unit(s)*
- RECL 136 - Principles of Recreation and Park Admin 3 *unit(s)*
- RECL 160 - Evaluation and Research in Recreation 3 *unit(s)*
- RECL 170A - Pre-Intern Workshop 1 *unit(s)*
- RECL 170B - Internship in Recreation 10 *unit(s)*

### College International Experience (0-3 units)

- In consultation with advisor, select an International Experience course 0-3 *unit(s)*

### Major Electives (29-32 units)

- Electives in consultation with Academic Advisor 29-32 unit(s) (up to 9 can be taken outside of Recreation - all must be approved by advisor)

## Total Units Required (120 units)

# Recreation, Recreation Management Concentration, BS

The recreation degree program, founded in 1947 by the Department of Public Health and Recreation, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 50

Major Preparation 6

Major Core Requirements 46-52

Concentration Requirements 15

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Health Science and Recreation International Experience Requirement

To satisfy the Health Science and Recreation Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience/](http://www.sjsu.edu/chahs/international-experience/).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (50 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

#### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6 units)

- HS / PH 74 - Healthy Communities 3 unit(s)  
or PH 99 - Introduction to Public Health 3 unit(s)
- RECL 100W - Writing Workshop 3 unit(s) (Z)

## Major Requirements (64 units)

### Core Courses (32 units)

- RECL 90 - Foundations of Recreation Parks & Tourism 3 unit(s)
- RECL 110 - Leisure, Life and Contemporary Society 3 unit(s)
- RECL 112 - Foundations of Recreation Therapy 3 unit(s)
- RECL 132 - Recreation Program Planning 3 unit(s)
- RECL 135 - Planning and Managing Rec Areas & Facil 3 unit(s)
- RECL 136 - Principles of Recreation and Park Admin 3 unit(s)
- RECL 160 - Evaluation and Research in Recreation 3 unit(s)
- RECL 170A - Pre-Intern Workshop 1 unit(s)
- RECL 170B - Internship in Recreation 10 unit(s)

### Recreation Management Concentration (15 units)

- RECL 97 - Event Planning 3 unit(s)
- RECL 150 - For-Profit Enterprises in Recreation 3 unit(s)
- RECL 152 - Non-Profit Leadership & Management 3 unit(s)
- RECL 155 - Outdoor Recreation Systems 3 unit(s)
- RECL 156 - Principles of Sustainable Travel and Tourism 3 unit(s)

### College International Experience (0-3 units)

- In consultation with advisor, select an International Experience course 0-3 unit(s)

### Major Electives (14-17 units)

14-17 units of electives in consultation with academic advisor

*up to 5 can be taken outside of Recreation - all must be approved by advisor*

### Total Units Required (120 units)

## Recreation, Recreation Therapy Concentration, BS

The recreation degree program, founded in 1947 by the Department of Public Health and Recreation, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

Recreation therapy is a systematic process of treatment services that utilize recreation and other activity-based interventions to address the assessed needs of individuals with illnesses and/or disabling conditions, as a means to improve psychological and physical health, recovery, and well-being. Graduates of recreation therapy work in a wide range of health services settings (i.e. veterans administration, mental health, addictions, physical medicine, rehabilitation, prison/corrections, pediatrics, municipal park and recreation, hospice, skilled nursing, adventure/therapeutic camps, and private practice).

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	16
Major Core Requirements	32
Concentration Requirements	22
University Electives	6
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement



At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (16 units)

- RECL 100W - Writing Workshop 3 *unit(s)* (Z)
- PH 15 - Human Life Span 3 *unit(s)* (D1)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- PSYC 110 - Adult Psychopathology 3 *unit(s)*

## Complete One Course From:

- BIOL 65 - Human Anatomy 4 *unit(s)* (B2B3)
- BIOL 65O - Human Anatomy 4 *unit(s)* (B2B3)

## Major Requirements (54 units)

### Core Courses (32 units)

- RECL 90 - Foundations of Recreation Parks & Tourism 3 *unit(s)*
- RECL 110 - Leisure, Life and Contemporary Society 3 *unit(s)*
- RECL 112 - Foundations of Recreation Therapy 3 *unit(s)*
- RECL 132 - Recreation Program Planning 3 *unit(s)*
- RECL 135 - Planning and Managing Rec Areas & Facil 3 *unit(s)*
- RECL 136 - Principles of Recreation and Park Admin 3 *unit(s)*
- RECL 160 - Evaluation and Research in Recreation 3 *unit(s)*
- RECL 170A - Pre-Intern Workshop 1 *unit(s)*
- RECL 170C - Internship in Recreation Therapy 10 *unit(s)*

### Recreation Therapy Concentration (22 units)

- RECL 140A - Spec Interventions in RT:Aquatic Therapy 1 *unit(s)*
- RECL 140B - Spec Inter in RT: Behavior Interventions 1 *unit(s)*
- RECL 140C - Spec Inter in RT: Adventure Tx 1 *unit(s)*
- RECL 148 - Biofeedback Principles and Practices 3 *unit(s)*
- RECL 169 - Practicum in Recreation Therapy 1 *unit(s)*
- RECL 187 - Leisure Education in Recreation Therapy 3 *unit(s)*
- RECL 193 - RT Interventions for People with Physical Conditions 3 *unit(s)*
- RECL 197 - Recreation Therapy in Mental Health 3 *unit(s)*
- RECL 198 - Rec Therapy Assessment and Documentation 3 *unit(s)*
- RECL 199 - Advanced Practices in Recreation Therapy 3 *unit(s)*

### University Electives (6 units)

Additional courses selected in consultation with major advisor

## Total Units Required (120 units)

# Master

## Public Health, MPH

- Graduate Admission
- Requirements for Advancement to Candidacy
- Requirements for Graduation
- Master's Requirements (42 units)
- Program Learning Outcomes

San José State University's Department of Public Health and Recreation offers an MPH degree with a specialization in community health education in two formats; On-Campus (regular session) and also online (through the College of Professional and Global Education). Both on-campus and online students engage in the same rigorous course of study. The MPH degree on campus offers students the flexibility to complete their degree in two years or more, depending on personal circumstances. The MPH online option is offered through Special Session and is a fast-paced, 24-month program of study.

Our MPH Program was founded in 1970 to prepare community health education practitioners and has been continuously accredited by the Council on Education for Public Health (CEPH) since 1974. CEPH is the independent agency officially recognized to accredit graduate programs in public health. As stated in its mission statement, CEPH assures quality in public health education and training to achieve excellence in practice, research and service, through collaboration with organizational and community partners. The SJSU MPH Program is well-known for its practice-oriented, community-based training. The program's essential mission is:

*To provide professional education that prepares both students and graduates with knowledge, conceptual frameworks, health education and public health competencies, in order to develop programs, build community capacity, and advocate policy for health equity.*

The MPH program's mission is achieved through an integrated program of instruction, scholarship, and internships in partnership with a diverse network of community programs and practitioners. Our ultimate goal is public health and social justice through planned, organized, and empowering community efforts.

Additional information is available on the Master of Public Health website at [www.sjsu.edu/hsr/academicprograms/mph](http://www.sjsu.edu/hsr/academicprograms/mph).

# Graduate Admission

## University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university graduate admission requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Program Admission

New students are admitted once a year, and begin course work during the fall semester in both online and campus formats. A detailed Admissions Information Packet is available at [www.sjsu.edu/hsr/academicprograms/mph](http://www.sjsu.edu/hsr/academicprograms/mph).

Applications for the Campus and Special Session Online formats are accepted between October 1 and May 1 for fall admission. Applications received by February 1 are eligible for early review and admission. Applications received between May 1 and June 1 will be considered on a space-available basis. Applications received after June 1 will not be eligible for review and will require resubmission for consideration for the next application cycle. Applying to the MPH program, both campus and online, requires two parallel, but separate, application processes. All MPH applicants must:

1. Submit a complete university application through Cal State Apply. Successful applicants must be admitted to the university by the SJSU Graduate Admissions and Program Evaluations.
2. Submit a complete application to the MPH program, which includes:
  1. At least two letters of recommendation on official letterhead, signed, and include contact information for author
  2. Resume/CV
  3. Statement of Purpose (1-2 pages)

Additional information and the Application Packet are available on the department website: [www.sjsu.edu/hsr/academicprograms/mph/admissions](http://www.sjsu.edu/hsr/academicprograms/mph/admissions).

## Program Requirements for Admission to Classified Standing

Students can be admitted in either classified or conditionally classified standing. To be admitted to the Master of Public Health Program in Classified status, an applicant must possess a baccalaureate degree with an overall minimum GPA of 3.0 in last 60 semester or quarter units, demonstrated multicultural experience, and a clear commitment to public health as evidenced through work or volunteer experiences.

## Program Requirements for Admission to Conditionally Classified Standing

Admission with Conditionally Classified standing is available to Campus format applicants only. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the applicant may be admitted with conditions that will include taking longer than two years to complete the program and taking writing and/or computation preparation courses. The program admissions letter will explain terms and requirements.

## Requirements for Advancement to Candidacy

Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy for the MPH degree are detailed in the Graduate Policies and Procedures section.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Course Requirements

To meet the requirements for the MPH, a student must complete 42 units (and satisfy the program GWAR requirement) with a cumulative GPA of 3.0 or better.

In consultation with the department graduate coordinator, the candidate will develop and pursue a plan of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program. The MPH program requires grades of B- or better to pass courses.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

The student must complete one of three culminating experience options: Plan A (Thesis), Plan B (Project), or the courses-only Plan B (Comprehensive Examination). Master's theses and graduate projects may only be undertaken by regular session MPH Campus students upon departmental approval and will require additional units. The Plan A (Thesis) option requires additional 6 units of coursework and College of Graduate Studies approval of the completed thesis. The Plan B (Project) option requires a minimum of 3 additional units of coursework.

#### Plan A (Thesis)

Campus students opting to complete a master's thesis will take the PH 299 - Master's Thesis twice for an additional 6 units over program requirements. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenure or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee, and pass the HS 205 and PH 215 courses before enrolling in the PH 299. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

#### Plan B (Project)

Campus students opting to complete a master's project will take the PH 298 - Graduate Project for an additional 3-6 units over program requirements.

**Plan B (Comprehensive Exam)**

All Online students and Campus students opting for the courses-only option must pass the Comprehensive Exam (given once a semester) to earn the MPH degree. The Comprehensive Exam is the student's opportunity to demonstrate mastery and integration of the knowledge and skills of the MPH curriculum. The comprehensive exam is a written exam that is administered on campus in a computer lab.

**Special Session Program Information**

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the IES website for more information.

**Master's Requirements (42 units)****Required Courses (25 units)**

- PH 200 - Contemporary Practice in Public Health 2 *unit(s)*
- PH 201 - Groups and Training: Theory and Practice 2 *unit(s)*
- PH 215 - Qualitative Methods for Public Health Practice 3 *unit(s)*
- PH 262 - Health Policy and Organization 3 *unit(s)*
- PH 265 - Environmental Health 3 *unit(s)*
- PH 271 - Theoretical Foundations of Public Health 3 *unit(s)*
- PH 272 - Health Promotion Planning and Evaluation 3 *unit(s)* (GWAR)
- PH 276 - Community Organization and Health Promotion 3 *unit(s)*
- PH 277 - Multicultural Communication for Health Professionals 3 *unit(s)*

**Leadership (3 units)**

Three units of leadership and administration selected in consultation with graduate advisor.

**Quantitative Methods (6 units)**

- PH 205A - Quantitative Methods for Public Health Practice I 3 *unit(s)*
- Additional three units of quantitative methods selected in consultation with graduate advisor.

**Evaluation Methods (3 units)**

Three units of program evaluation methods selected in consultation with graduate advisor.

**Required Practicum (5 units)**

- PH 291A - Fieldwork Seminar 1 *unit(s)*
- PH 291B - Fieldwork Practicum 1-2 *unit(s)* (Students take 2 units of PH 291B)
- PH 291P - Professional Development 1 *unit(s)*

- One unit of professional skills development in consultation with graduate advisor.

## Culminating Experience

Students in the MPH program complete a Plan B (Comprehensive Exam). Campus MPH students have the option of choosing either a Plan A (Thesis) or Plan B (Project) instead. The thesis and project options require additional coursework.

### Plan A (Thesis)

*The Plan A (Thesis) option requires two consecutive semesters of the HS 299 for an additional 6 units of coursework.*

- PH 299 - Master's Thesis 3 unit(s)

### Plan B (Project)

*The Plan B (Project) option requires an additional 3-6 units of coursework.*

- PH 298 - Graduate Project 3 unit(s)

### Plan B (Comprehensive Exam)

## Total Units Required (42 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Recreation, International Tourism Concentration, MS (Not Accepting Students)

- Graduation Writing Assessment Requirement
- Master's Requirements (30 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

### Core Courses (6 units)

- RECL 200 - Foundations of Recreation and Tourism 3 unit(s)
- RECL 202 - Evaluation and Assessment in Recreation and Tourism 3 unit(s)

## Required Courses (9 units)

- RECL 215 - International Tourism Trends and Issues 3 *unit(s)*
- RECL 216 - Marketing for Tourism and Recreation 3 *unit(s)*
- RECL 218 - Tourism Planning and Development 3 *unit(s)*

## Electives (9 units)

Selected in consultation with graduate advisor.

## Culminating Experience (6 units)

- RECL 204 - Research Methods in Recreation and Tourism 3 *unit(s)*
- RECL 298 - Special Studies 1-3 *unit(s)*
- RECL 299 - Master's Thesis 1-6 *unit(s)*

## Total Units Required (30 units)

## Recreation, MS

- Overview
- General Requirements for Admission
- Requirements for Admission to Candidacy for the MS - Recreation
- Master's Requirements (30 units)

## Overview

The recreation degree program, founded in 1947 by the Department of Public Health and Recreation, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

## General Requirements for Admission

Applicants to the graduate program must complete all sections of the CSU online application including the personal statement which must address the applicant's potential to develop expert knowledge and the advanced skills needed to succeed in the field and/or to continue study in a doctoral program. Criteria for admission include an overall grade

point average of 2.5 and an upper-division grade point average of 3.0. Additionally, applicants are requested to send a copy of their personal statement and their resume to the department graduate coordinator.

## Requirements for Admission to Candidacy for the MS - Recreation

In addition to university requirements for advancement to candidacy or the Master of Science degree in Recreation, students must have completed the following requirements: all deficiencies must be completed with a grade point average of at least 3.0; the admission to candidacy form must be completed and approved by the graduate program advisor and the Associate Dean for College of Graduate Studies; and the Graduation Writing Assessment Requirement (GWAR) must be demonstrated at least one semester prior to submission of the admission to candidacy form. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Core Courses (6 units)

- RECL 200 - Foundations of Recreation and Tourism 3 *unit(s)*
- RECL 202 - Evaluation and Assessment in Recreation and Tourism 3 *unit(s)*

#### Electives (18 units)

Selected in consultation with graduate advisor.

#### Culminating Experience (6 units)

- RECL 204 - Research Methods in Recreation and Tourism 3 *unit(s)*
- RECL 298 - Special Studies 1-3 *unit(s)*
- RECL 299 - Master's Thesis 1-6 *unit(s)*

#### Total Units Required (30 units)

## Minor

### Complementary and Alternative Health Practices Minor

The Complementary and Alternative Health Practices Minor program is designed to provide a strong academic understanding of the theory, practice, and effectiveness of complementary and alternative medical (CAM) therapies.



Emphasis is on critical thinking skills and using a scientific evidence-based eye while keeping an open mind. Classes will form the basis for evaluating CAM therapies commonly practiced by U.S. residents.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (13-15 units)

### Required Courses (9 units)

- HPRF 134 - Complementary and Alternative Health Practices 3 *unit(s)*
- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)

### Complete One Course From:

- BIOL 54 - Human Understanding 3 *unit(s)* (E)
- PHIL 111 - Medical Ethics 3 *unit(s)*
- ANTH 108 - Medical Anthropology 3 *unit(s)*

### Electives (4-6 units)

Choose courses from two different areas. HPRF 180 - Individual Studies, may be used for any area depending upon topic studied.

### Alternative Medical Systems

- ANTH 108 - Medical Anthropology 3 *unit(s)*
- PHIL 111 - Medical Ethics 3 *unit(s)*

### Mind/Body Interventions

- KIN 69 - Stress Management: A Multidisciplinary Perspective 3 *unit(s)* (E)
- RELS 122 - Magic, Science and Religion 3 *unit(s)* (V)
- RECL 197 - Recreation Therapy in Mental Health 3 *unit(s)*

### Biological-Based Therapies

- BIOL 54 - Human Understanding 3 *unit(s)* (E)
- NUFS 104A - Cultural Aspects of Food 3 *unit(s)*
- NUFS 105 - Current Issues in Nutrition 3 *unit(s)*

### Manipulative and Body-Based Methods

- KIN 50 - Tai Chi (Non-Combative) 1 *unit(s)* (PE)
- KIN 61A - Beginning Hatha Yoga 1 *unit(s)* (PE)

## Total Units Required (13-15 units)

Note: HPRF 180 may be used for any area depending on topic studied.

## Health Professions Minor

A minor in Health Professions provides all students with the opportunity to gain a breadth of knowledge and understanding of the challenging health issues facing a multicultural society. Courses must be unique to the minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (12-15 units)

### Required Courses (3 units)

- PH 135 - Health Issues in a Multicultural Society 3 *unit(s)* (S)

### Electives (9-13 units)

**Choose Courses from Four of the Following Five Areas.**

#### Gerontology

- GERO 108 - Health in Later Life 3 *unit(s)*
- GERO 111 - Medical Ethics 3 *unit(s)*
- GERO 117 - Social Policy and Services in Aging 3 *unit(s)*
- GERO 127 - Aging and Mental Health 3 *unit(s)*
- GERO 137 - Families, Aging, and Diversity 3 *unit(s)*

#### Health Science

- PH 102 - Health Team Building 3 *unit(s)*
- PH 161 - Epidemiology 3 *unit(s)*
- PH 162 - Health Care Organization and Admin 3 *unit(s)*

#### Nursing

- NURS 180 - Individual Studies 1-4 *unit(s)* (Or other courses with Director of Health Professions Approval)

#### Nutrition, Food Science and Packaging

- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- NUFS 9 - Introduction to Human Nutrition 3 *unit(s)* (E)

- NUFS 106A - Human Nutrition in the Life Span 3 *unit(s)*
- NUFS 116 - Aging and Nutrition 3 *unit(s)* (Or other courses with Director of Health Professions Approval)

## Other Health-Related Areas

- HPRF 134 - Complementary and Alternative Health Practices 3 *unit(s)*
- KIN 69 - Stress Management: A Multidisciplinary Perspective 3 *unit(s)* (E)
- KIN 155 - Exercise Physiology 3 *unit(s)*
- KIN 156 - Introduction to Adapted Physical Activity 3 *unit(s)*
- PH 169 - Diversity, Stress and Health 3 *unit(s)* (S)
- KIN 188 - Prevention and Care of Athletic Injuries 2 *unit(s)*
- RECL 110 - Leisure, Life and Contemporary Society 3 *unit(s)*
- RECL 112 - Foundations of Recreation Therapy 3 *unit(s)*
- RECL 185 - Leisure, Recreation and Aging 3 *unit(s)*
- RECL 198 - Rec Therapy Assessment and Documentation 3 *unit(s)* (Or other courses with Director of Health Professions Approval)

## Total Units Required (12-15 units)

Or other courses with Director of Health Science Approval.

## Public Health Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Core (12 units)

- PH 1 - Understanding Your Health 3 *unit(s)* (E)
- PH 74 - Healthy Communities 3 *unit(s)*
- PH 161 - Epidemiology 3 *unit(s)*
- PH 162 - Health Care Organization and Admin 3 *unit(s)*

### Upper Division Health Science Elective (3 units)

- Select one additional three (3) unit Health Science course in consultation with a department advisor 3 *unit(s)*

## Total Units Required (15 units)

## Recreation and Nature Minor

This multidisciplinary minor covers topics including conceptual foundations of play, recreation and leisure; understanding structures and processes of living systems; managing outdoor recreation behavior; human activity impacts on living systems; and design and implementation of interpretive programs. Students will learn how to balance recreation needs with protecting and enhancing the natural environment. This is an ideal minor for students who are passionate about promoting and protecting outdoor recreational spaces and nature.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (20 units)

### Core Courses (20 units)

- ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)
- RECL 90 - Foundations of Recreation Parks & Tourism 3 *unit(s)*

### Complete Two Courses From:

- ENVS 144 - California Wetland Controversies 4 *unit(s)*
- ENVS 161 - California Wildlands 4 *unit(s)*
- ENVS 173 - Forest Ecology and Conservation 4 *unit(s)*
- ENVS 187 - Environmental Restoration 4 *unit(s)*
- ENVS 189 - Coastal Field Studies 4 *unit(s)*
- ENVS 191 - Advanced Environmental Restoration 4 *unit(s)*

### Complete Two Courses From:

- RECL 136 - Principles of Recreation and Park Admin 3 *unit(s)*
- RECL 144 - Natural and Cultural Resource Interpretation in Recreation and Parks 3 *unit(s)*
- RECL 155 - Outdoor Recreation Systems 3 *unit(s)*
- RECL 157 - Sustainable Recreation & Ecotourism 3 *unit(s)*

## Total Units Required (20 units)

# Recreation Minor

### Overview

The recreation degree program, founded in 1947, has a core accredited by the Council on Accreditation of Park, Recreation, and Tourism Related Professions (COAPRT). The degree has maintained continuous accreditation since its first awarding of this status occurred in April 1987, demonstrating the rigor and recognition of our programs. The Bachelor's degree in Recreation is a nationally accredited program comprised of a core set of classes and courses split generally between concentration courses and major electives. Graduates completing one of these concentrations are eligible to apply for national and state certification. While the general recreation degree is the most flexible in terms of choosing related electives, students may instead elect to complete a more specialized course of study in one of our two approved concentrations within the B.S. Recreation Degree: Recreation Management and

Recreation Therapy. We also offer M.S. in Recreation, all of which are designed to meet increasing needs and demands for recreation professionals and administrators in our growing fields of practices in public, non-profit, and commercial sectors, not only locally and regionally, but also nationally and globally.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Core (6 units)

- RECL 90 - Foundations of Recreation Parks & Tourism 3 *unit(s)*
- RECL 97 - Event Planning 3 *unit(s)*

### Upper Division Requirements (9 units)

Complete nine (9) upper division units in consultation with department advisor

## Total Units Required (15 units)

#### *HPRF 134 - Complementary and Alternative Health Practices*

3 *unit(s)*

Philosophical, historical, clinical, and scholarly aspects of complementary and alternative medicine and associated health practices used in the US, with emphasis on scientific clinical investigation and evidence based efficacy.

**Prerequisite(s):** Completion of Core GE or instructor consent.

**Grading:** Graded

#### *HPRF 135ITL - Health issues in a multicultural society-international experience*

3 *unit(s)*

This course examines culturally related consumer health issues including the impact of cultural variables on health and illness. The course is designed to improve student understanding and competency in the area of self, society, and equality in international settings.

**Corequisite(s):** Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

#### *HPRF 180 - Individual Studies*

1-5 *unit(s)*

Individual work on special topics by arrangement.

**Prerequisite(s):** Upper division standing, instructor consent and division director approval.

**Grading:** Credit/No Credit

#### *HPRF 260 - Multidisciplinary Health Promotion in Later Life*

3 unit(s)

Multidisciplinary assessment and planning. Principles of promoting health and preventing disability in later life. Physical, psychological, social, cultural, spiritual, and environmental factors that affect length and quality of life.

**Prerequisite(s):** BIOL 66 or GERO 108 or instructor consent.

**Grading:** Graded

*PH 1 - Understanding Your Health*

3 unit(s)

(Formerly HS 1) Introductory course on the interdependence of the physiological, social and psychological factors influencing the healthy well-being of individuals throughout the life span. Emphasis is on identifying and utilizing both university and community resources to assist in personal and educational development.

*Satisfies E: Human Understanding & Development.*

**Grading:** Graded

*PH 15 - Human Life Span*

3 unit(s)

(Formerly HS 15) Emphasizes growth and development of the individual from conception to death - perspective on biological, cultural, sociological and psychological changes and continuities during the human life span. Special attention will be given to socioeconomic status, gender and ethnic variations.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*PH 67 - Introductory Health Statistics*

3 unit(s)

(Formerly HS 67) A practical introduction to the statistical methods used in health, health care, biomedical, and public health settings. Concepts are illustrated with concrete examples that demonstrate how principles operate and are applied to common health problems. GE Area: B4.

*Satisfies B4: Mathematical Concepts.*

**Prerequisite(s):** Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

**Grading:** Graded

*PH 74 - Healthy Communities*

3 unit(s)

(Formerly HS 74) Transdisciplinary introduction to community health. Strategic analysis of local communities, evidence-based interventions, impact of environmental changes at individual, family, neighborhood, and community levels. Focus on healthy policies, built environment, leisure, equity, and integration of recreation and population health approaches.

**Prerequisite(s):** Successful Completion of PH 1 or RECL 10.

**Grading:** Graded

*PH 92 - Int'l Program Studies*

1-12 unit(s)  
(Formerly HS 92)

*Repeatable for credit.*

**Grading:** Mixed Grading

*PH 99 - Introduction to Public Health*

3 unit(s)

Introduces students to the history, ethical foundations, policies, tools, interventions, and essential public health services that shape population health. Will approach public health issues from biological, sociocultural, behavioral, environmental, and political perspectives.

**Grading:** Graded

*PH 100W - Writing Workshop*

3 unit(s)

(Formerly HS 100W) Development of skills in scientific and technical writing. How to write a critical review of published writing, a business letter, a scholarly paper, and give an oral presentation.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*PH 102 - Health Team Building*

3 unit(s)

(Formerly HS 25) Exploration of communication in small group settings and skill development necessary to work effectively, particularly in the health field. Topics include decision making, leadership, and conflict resolution integrating theory and practice.

**Prerequisite(s):** Upper Division Standing. Completion of PH 1, PH 15, and PH 67 with a minimum grade of C in each.

**Grading:** Graded

*PH 103 - Introduction to Health Policy*

3 unit(s)

(Formerly HS 103) Examination of historical and current policies related to public health, stakeholders in health policy making and advocacy, and health policy frameworks for conducting policy analysis and policy making.

**Corequisite(s):** Any 100W, NUFS 100W / NURS 100W / PH 100W preferred.

**Grading:** Graded

*PH 104 - Community Health Promotion*

4 unit(s)

(Formerly HS 104) Examination of community health issues, and assets, determinants, and levels of intervention. Introduction to approaches to disease prevention health promotion, and social change to promote health. Application of community health promotion and disease prevention through service learning.

**Prerequisite(s):** PH 1, PH 15, PH 67, and PH 99.

**Corequisite(s):** PH 102.

**Grading:** Graded

**Note(s):** For Fall 2020, this is a 3 unit course with the prerequisites of PH 1, PH 15, PH 67, and PH 74 and a corequisite of PH 114. Effective Spring 2021, this is a 4 unit course with prerequisites of PH 1, PH 15, PH 67, and PH 99.

*PH 105 - Current Issues in Nutrition*

3 unit(s)

(Formerly HS 105) Controversial topics, including the relation of nutrition to cancer, coronary heart disease, hypertension, diabetes, eating disorders, osteoporosis and athletic performance; recommended nutrient intakes; and other current issues.

**Prerequisite(s):** NUFS 8, NUFS 9, NUFS 163 or equivalent introductory course in human nutrition.

**Grading:** Graded

*PH 106 - Concepts in Peer Health Education*

3 unit(s)

(Formerly HS 106) Exploration of peer and lay health education as an effective health promotion strategy. Emphasis on college health and the skills and knowledge to be a successful peer health educator in a university setting. Interactive, skills-based seminar includes service-learning at SJSU.

**Grading:** Graded

*PH 107 - Aging and Society*

3 unit(s)

(Formerly HS 107) Social, psychological and physiological aging processes. Implications of aging for individuals and societies, with emphasis on issues related to diversity, equality and gender in the U.S.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PH 108 - Health in Later Life*



3 unit(s)

(Formerly HS 108) Normal age-related health changes and common illnesses in later life. Health status, behavior and attitudes of older adults. The continuum of health care services. Professional and ethical issues in service delivery.

**Prerequisite(s):** College biological sciences course.

**Grading:** Graded

*PH 111 - Medical Ethics*

3 unit(s)

(Formerly HS 111) Selected ethical problems in health care practices. For example, abortion, patient rights, national health care, euthanasia and genetic engineering, with emphasis on philosophical methods.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PH 114 - Applications in Community Health Promotion*

3 unit(s)

(Formerly HS 114) Application of community health promotion and disease prevention through service learning. Collaborate with community-based partners to improve health and reduce disparities.

**Prerequisite(s):** PH 74. Upper Division Standing, Major/Minors Only.

**Corequisite(s):** PH 104.

**Grading:** Credit / No Credit

*PH 117 - Social Policy and Services in Aging*

3 unit(s)

(Formerly HS 117) Social policy on aging from a historical perspective. Implications for service to the elderly. Indicators for future program projections.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*PH 118 - Long Term Care Services*

3 unit(s)

(Formerly HS 118) History and organization of the continuum of long term care for U.S. families, financing and regulatory policies, and factors influencing the quality of care. Professional and ethical issues facing long term care providers.

**Prerequisite(s):** GERO 117 or PH 162

**Grading:** Graded

*PH 122 - Women in the Second Half of Life*

3 unit(s)

The roles and problems of the older woman in a changing society. Societal attitudes, stereotypes, employment and interaction patterns. Opportunity for focus on specific areas of interest.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*PH 126 - Drugs, Brain and Behavior*

3 unit(s)

Survey of psychoactive drugs, including prescription and street drugs; social, behavioral and physiological effects of drugs; neural mechanisms of drug action; history of drug use.

**Prerequisite(s):** PSYC 30 or 3 units of biology.

**Grading:** Graded

*PH 135 - Health Issues in a Multicultural Society*

3 unit(s)

Multidisciplinary interpretation and evaluation of consumer health issues. Impact of cultural variables (including communication methods, socioeconomic status and traditional beliefs) on health and illness. Interaction of individuals in families and other groups.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PH 135ITL - Health issues in a multicultural society-international experience*

3 unit(s)

This course examines culturally related consumer health issues including the impact of cultural variables on health and illness. The course is designed to improve student understanding and competency in the area of self, society, and equality in international settings.

**Corequisite(s):** Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

*PH 137 - Families, Aging, and Diversity*

3 unit(s)

Family relationships of older adults in diverse U.S. ethnic groups. Current patterns of family and formal assistance to elders with disabilities. Critical analysis of eldercare policies and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*PH 140 - Human Sexuality*

3 unit(s)

Biological and sociocultural facets of human sexuality. Evolution and physiology of sex, reproductive biology/ethics and cross-cultural expression of sexual behavior.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not acceptable as an elective in the Biology major.

*PH 145 - Community Mental Health*

*3 unit(s)*

Comprehensive analysis of community mental health using a socio-ecological framework. Intersection of race, socioeconomic status, gender, sexual orientation, and mental health is examined. Emphasis is on prevention and recovery.

**Prerequisite(s):** Any 100W or instructor consent.

**Grading:** Graded

*PH 158 - Health Communications*

*3 unit(s)*

Introduction to, and application of, health communication concepts, theories, and principles to specific health topics. Students will gain a broad understanding of the role of communication and its complexity as it relates to disease prevention and health promotion.

*Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** PH 1, PH 15, and PH 67 with a grade of C or better in each. Health Science Majors/Minors only.

**Grading:** Graded

*PH 159 - Health Program Planning*

*3 unit(s)*

Students develop a community health plan that is based on an assessment of needs and community assets. The plan includes interventions that reflect "Best Practices" and recognize the value of partnerships, media advocacy and policy advocacy.

*Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** Upper division standing. Any 100W, (NUFS 100W / NURS 100W / PH 100W preferred), PH 104 and PH 161 with a grade of C or better in each.

**Grading:** Graded

*PH 161 - Epidemiology*

*3 unit(s)*

The study of population-based risks of infectious and noninfectious diseases and how these risks relate to cause, treatment and prevention. Restricted to Majors and minors.

*Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** Completion of PH 1, PH 15, and PH 67 with a grade of C or better. Upper division standing. Public Health Majors and Minors only or instructor consent.

**Grading:** Graded

*PH 162 - Health Care Organization and Admin*

*3 unit(s)*

Exploration of health economics, financing, insurance theory and contemporary trends in health care organization, management and administration.

**Corequisite(s):** NUFS 100W / NURS 100W / PH 100W or other 100W course. Restricted to Public Health Majors and Minors only or instructor consent.

**Grading:** Graded

*PH 164 - Health Services and Social Marketing*

*3 unit(s)*

Introduction to marketing principles and concepts as applied in community health education and health services settings. Examination of difference between strategic business marketing and social marketing for health, through examples of successful health education and health services programs. Restricted to Public Health Majors or instructor consent.

*Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** PH 158 with a grade of C or better. Public Health Majors only.

**Grading:** Graded

*PH 165 - The Health Professional*

*3 unit(s)*

Preparation for entry into community health professions with an emphasis in four areas; (1) settings and roles, (2) skills for practice, (3) ethics, and (4) leadership and professional associations.

*Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** Senior standing, Public Health majors in Final Semester and minors only.

**Grading:** Graded

*PH 165A - Public Health Leadership Series I*

*1 unit(s)*

Promotes students' adoption of professional behaviors, which will serve them in the classroom, in their interactions with faculty and colleagues outside the classroom, and in their careers upon graduation.

**Prerequisite(s):** Upper division standing, Public Health majors.

**Grading:** Graded

*PH 165B - Public Health Leadership Series II*

*1 unit(s)*

Prepares students in the major for the internship experience by engaging course participants in self-reflection,

continued skill development, and exploration of leadership styles and organizational structures. Students are expected to secure an internship location during this course.

**Prerequisite(s):** PH 165A, Junior standing, Public Health majors.

**Grading:** Graded

*PH 165C - Public Health Leadership Series III*

*1 unit(s)*

Course guides graduating seniors in the transition from college to the workforce by engaging participants in exploring and articulating theoretical and practical leadership styles and personal and professional reflection to further develop their own leadership style and potential.

**Prerequisite(s):** PH 165B, PH 166, Public Health majors in final semester, senior standing.

**Grading:** Graded

*PH 166 - Field Experience Seminar*

*2 unit(s)*

Theory and practice in a community health agency, public health data organization, health care facility or industry.

**Prerequisite(s):** PH 165B.

**Grading:** Credit / No Credit

**Note(s):** Internships are now required of all public health students. Current students in the Health Services concentration must take PH 166A / PH 166B until Fall 2021.

*PH 166A - Field Experience Seminar*

*3 unit(s)*

Theory and practice in a community health agency, health care facility or industry.

**Prerequisite(s):** Senior standing, Public Health majors and minors in their final semester only.

**Corequisite(s):** PH 166B.

**Grading:** Credit / No Credit

*PH 166B - Fieldwork Experience*

*3 unit(s)*

Supervised work experience in an official or voluntary health agency, health care facility or industrial setting: short-term projects, observation of agency or facility dynamics and individual skills development.

**Prerequisite(s):** Senior standing, Public Health Majors and Minors in their final semester only.

**Corequisite(s):** PH 166A.

**Grading:** Credit / No Credit

*PH 167 - Biostatistics*

*3 unit(s)*

Statistical analysis of health and biological data covering measurement scales, random sampling, data quality, data storage descriptive and exploratory techniques, probability distributions, estimation and hypothesis testing, includes an integrated lab activity.

*Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** PH 67 with a minimum grade of C. Public Health Majors only.  
**Grading:** Graded

*PH 168 - Health Education Theory and Methods*

*3 unit(s)*

Explores the foundations and applications of health education theory. Students will study models of individual, interpersonal and community health behavior. They also will learn methods for applying theory in research and health education practice.

**Prerequisite(s):** PH 104.  
**Grading:** Graded

*PH 170 - Health Care Economics*

*3 unit(s)*

Study of the economics of health care and understanding cost-benefit, cost-effectiveness ratio and decision tree analysis for health care.

**Prerequisite(s):** PH 162 with a minimum grade of C.  
**Grading:** Graded

*PH 171 - Managed Health Care*

*3 unit(s)*

Study of managed health care and its growth and impact on the organization and delivery of health services in the United States.

**Prerequisite(s):** PH 162 with a grade of C or better.  
**Grading:** Graded

*PH 172 - Contemporary Environmental Health Issues*

*3 unit(s)*

Examines the complex and interdependent relationship between environment and health outcomes. Advances scientific understanding of evolution and biodiversity, ecosystems, population dynamics, sustainability of earth's resources, pest management, solid and hazardous waste, water and air pollution, climate change, and environmental/occupational exposures. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PH 173 - Comparative Healthcare Systems*

3 unit(s)

A comprehensive examination of the structure of healthcare systems in selected countries worldwide. Specific attention is paid to the developmental history of the national healthcare systems, financing, and delivery infrastructure. The impact of international relations is also examined.

**Prerequisite(s):** PH 162 with grade of C or better.

**Grading:** Graded

*PH 174 - Fundamentals of Health Information Tech*

3 unit(s)

Introduction to the principles and practices of health information technology to administer healthcare systems and promote public health. Focus on best practices, case-based learning, and global comparisons of innovative systems.

**Prerequisite(s):** PH 162 with a grade of C or better.

**Grading:** Graded

*PH 175 - Legal/Ethical Aspects, Healthcare Admin*

3 unit(s)

Exploration of legal and ethical issues facing the health care industry, government regulation, patient rights, and corporate/administrative responsibility.

**Prerequisite(s):** PH 162.

**Grading:** Graded

*PH 176 - Introduction to Global Health*

3 unit(s)

Examination of global distribution of disease and wellbeing. Explore connections between global health and social/economic development. Multidisciplinary approach to critical problems including HIV/AIDS, malaria, complex humanitarian emergencies, and disasters. Addresses ethics and leadership in global health.

**Prerequisite(s):** Upper Division Standing.

**Grading:** Graded

*PH 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

*Repeatable for credit.*

**Prerequisite(s):** Upper division standing, instructor consent and department chair approval. Not available to Open University Students.

**Grading:** Credit / No Credit

*PH 183 - Special Topics in Community Health Education*

3 unit(s)

Introduces students to an array of current and emerging topics in community health education. Contemporary topics that are relevant to analyzing and applying insights from health promotion to solve real-life community health

problems.

*Repeatable for credit when topic changes.*

**Prerequisite(s):** Upper division standing, Public Health majors, PH 165A and PH 165B; or by instructor consent.

**Grading:** Graded

*PH 184 - Directed Reading*

*1-4 unit(s)*

Directed reading in journals and books of authorities in the field of health.

*Repeatable for credit.*

**Prerequisite(s):** Upper division standing and department chair consent. Not available to Open University Students.

**Grading:** Credit / No Credit

*PH 188 - Community Health Assessment*

*3 unit(s)*

Introduction to principles and practices of community health assessment with a focus on health disparities, social determinants of health, and equity. Course will utilize the social ecological model to analyze community health and wellness.

**Prerequisite(s):** PH 165B, PH 104, PH 161, senior standing

**Grading:** Graded

*PH 189 - Community Health Education Capstone*

*3 unit(s)*

Apply health promotion theory, evidence-based practices, and evaluation methods to address a community health need. Students will develop a comprehensive health promotion and evaluation plan based on a community health assessment.

**Prerequisite(s):** HS 166, PH 168, PH 188, Public Health majors, Senior standing in the final semester.

**Grading:** Graded

*PH 191 - Applied Epidemiology*

*3 unit(s)*

Explores the application of epidemiology. Students will learn how to use standard epidemiological software for data analysis, conduct in-depth epidemiological investigations, understand screening in public health practice, and learn about models for infectious disease transmission.

**Prerequisite(s):** PH 161, PH 167, Public Health majors, Upper division standing.

**Grading:** Graded

*PH 192 - Int'l Program Studies*

*1-12 unit(s)*

*Repeatable for credit.*



**Grading:** Mixed Grading

*PH 193 - Special Topics in Population Data Science*

*3 unit(s)*

Introduces students to a variety of current and emerging topics in population data science. This course offers students a rotating variety of contemporary topics that are relevant to analyzing and applying insights from data to solve real-life public health problems.

*Repeatable for credit when topic changes.*

**Prerequisite(s):** Upper division standing, Public Health majors, PH 165A and PH 165B. Or by instructor consent.

**Grading:** Graded

*PH 195 - Fundamentals of Data Management and Presentation*

*3 unit(s)*

Introduces students to widely used techniques for presenting and managing data. Students will gain experience managing data in a variety of formats including Excel, and learn how to create informative charts and dashboards using data visualization and mapping software.

**Prerequisite(s):** PH 161, PH 167, Public Health majors.

**Grading:** Graded

*PH 197 - Quantitative Analysis*

*3 unit(s)*

Applied population health quantitative analysis course, which builds on concepts introduced in core courses, epidemiology and biostatistics. Students will conduct data analysis using the Statistical Analysis Software (SAS) package, with a specific focus on public health application.

**Prerequisite(s):** PH 161, PH 167, Public Health majors.

**Grading:** Graded

*PH 198 - Qualitative Analysis*

*3 unit(s)*

Introduces students to qualitative research methods, which allow interviewers to understand motivations of participants. Students will learn different qualitative methods including open-ended interviews, focus groups, and photo-voice.

**Prerequisite(s):** Upper division standing and PH 100W.

**Grading:** Graded

*PH 199 - Population Data Science Capstone*

*3 unit(s)*

Provides students with an opportunity to conduct a research project to test a hypothesis related to a public health problem. Students will create a study plan, identify knowledge gaps, collect/analyze data, summarize and interpret the findings, and present the results.

**Prerequisite(s):** Upper division standing, Public Health majors, PH 191, PH 197, PH 198.

**Grading:** Graded

*PH 200 - Contemporary Practice in Public Health*

2 unit(s)

Introduction to the philosophy, ethics, historical roots, and approaches of contemporary public health education and health promotion. Emphasis is on frameworks and strategies used in practice.

*Repeatable for credit.*

**Grading:** Graded

*PH 201 - Groups and Training: Theory and Practice*

2 unit(s)

Addresses the study of group theories, dynamics, and processes in professional context of public health. Students will experience and evaluate team processes such as stages of group development, facilitation, successful communication, conflict, power and influence, problem-solving, and decision-making.

**Grading:** Graded

*PH 205A - Quantitative Methods for Public Health Practice I*

3 unit(s)

Integrated approach to the disciplines of Biostatistics and Epidemiology. Develops quantitative skills to evaluate data and make evidence-based decisions. Covers conduct and design of epidemiologic studies, basic biostatistical analyses, biostatistical software, and foundational knowledge of exposure and outcome assessment.

**Grading:** Graded

*PH 205B - Quantitative Methods in Public Health*

3 unit(s)

Methods of public health and biostatistical data collection, management, analysis, and reporting using microcomputers, including the detection and control of confounding factors.

**Prerequisite(s):** PH 205A.

**Grading:** Graded

*PH 215 - Qualitative Methods for Public Health Practice*

3 unit(s)

Introduction to qualitative methods, with focus on theory, data collection, and analysis. Students will collect qualitative data and analyze that data using software. Additional topics include research ethics, study design, and community-based participatory research.

**Grading:** Graded

*PH 225 - Evaluation Methods for Public Health Practice*

3 unit(s)

Students will become familiar with the concepts of formative, summative, process, impact, and outcome evaluation, ethical considerations, and barriers such as time or resources. Students will develop a viable program evaluation plan for a campus or community partner.

**Prerequisite(s):** PH 205A, PH 205B, PH 215, and PH 272.

**Grading:** Graded

*PH 261 - Principles of Epidemiology*

3 unit(s)

Introduction to epidemiologic concepts and methods with applications to public health practice for students intending to engage in, collaborate in, or interpret the results of epidemiologic studies in the scientific appraisal of community health.

**Prerequisite(s):** PH 167 or equivalent.

**Grading:** Graded

*PH 262 - Health Policy and Organization*

3 unit(s)

Health policy and the organization of health services, with a focus on the United States. Health policy analysis, the policy-making process, health care economics, insurance theory, comparative health systems, and health care quality.

**Grading:** Graded

*PH 263 - Principles and Skills of Health Administration*

2 unit(s)

Application of administrative concepts and skills in health systems agencies. Includes decision-making, communication, funding, budgeting, marketing, personnel management, labor relations, planning, evaluation and health promotion.

**Grading:** Graded

*PH 265 - Environmental Health*

3 unit(s)

Investigation of environmental health issues: risk evaluation, risk management, hazardous materials, occupational health and safety, plus air, water and noise pollution. Learning fundamentals of managing environmental health problems.

*Repeatable for credit.*

**Grading:** Graded

*PH 267 - Computational Public Health Statistics*

3 unit(s)

Methods of public health and biostatistical data collection, management, analysis and reporting using microcomputers, including the detection and control of confounding factors.

**Prerequisite(s):** PH 167 or instructor consent.  
**Grading:** Graded

*PH 269 - Applied Data Analysis*

3 unit(s)

Overview of quantitative and qualitative data analysis and reporting. Application of basic quantitative analysis concepts introduced in computational statistics and research courses. Specific emphasis of interpretation of qualitative data including data reduction, text management, coding, content analysis, and data trustworthiness.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** PH 295.  
**Pre/Corequisite(s):** PH 267.  
**Grading:** Graded

*PH 271 - Theoretical Foundations of Public Health*

3 unit(s)

Role of theory in shaping practice, research and evaluation that facilitates social change and promotes health across the spectrum of prevention, including individual, community, organization, and policy levels.

**Grading:** Graded

*PH 272 - Health Promotion Planning and Evaluation*

3 unit(s)

Theory and practice of developing community health programs. Focus on program planning within the context of strategic planning, problem/needs assessment, setting of program goals and objectives, approaches to program evaluation and grant writing.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** PH 271.  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PH 276 - Community Organization and Health Promotion*

3 unit(s)

Advanced study of the principles, practices and ethical considerations underlying community organization, health promotion, empowerment and advocacy. Includes examination of the change process and introduction to the skills and tools of effective public health organizing.

**Grading:** Graded

*PH 277 - Multicultural Communication for Health Professionals*

3 unit(s)

Theories and skills of multicultural communication necessary for effective professional practice with diverse clients,

communities, staff and colleagues. Examination of concepts and indicators of cultural competence begins with intensive self-study and concludes with community examples.

**Grading:** Graded

*PH 291A - Fieldwork Seminar*

*1 unit(s)*

Preparation for fieldwork placement, with emphasis on (1) self-assessment of strengths, competencies, professional objectives, and fieldwork priorities; (2) identification of fieldwork site and negotiation of Memorandum of Understanding; and (3) planning for professional development.

*Repeatable for credit.*

**Prerequisite(s):** PH 200, PH 201, PH 271, PH 272 or instructor consent.

**Grading:** Graded

*PH 291B - Fieldwork Practicum*

*1-2 unit(s)*

Application of theory and skills to health education practice, research, and/or policy under the supervision of a preceptor.

*Course is repeatable for up to 2 units.*

**Prerequisite(s):** PH 200, PH 201, PH 271, PH 272, PH 291A or instructor consent. Not available to Open University Students.

**Corequisite(s):** PH 291P.

**Grading:** Credit / No Credit

*PH 291C - Professional Skills for Public Health Practice*

*1 unit(s)*

Introduction to the fundamental skills used in everyday Public Health practice. Emphasis on writing and presenting at a graduate level, critical thinking, collaboration and professional behavior. Additional topics include professional communication, giving and receiving feedback, professional relationships and interactions.

**Grading:** Credit / No Credit

*PH 291D - Work Experience Practicum*

*2 unit(s)*

Supervised work experience in community, health care organization, or worksite settings.

**Prerequisite(s):** PH 200, PH 201, PH 271, PH 272, PH 291A.

**Grading:** Mandatory CR/NC/RP

*PH 291P - Professional Development*

*1 unit(s)*

Strategically selected professional development activities to supplement experiences during fieldwork and advance public health career objectives.

**Prerequisite(s):** PH 291A.  
**Grading:** Credit / No Credit

*PH 293 - Public Health Leadership*

3 unit(s)

Preparation for leadership in public health. Emphasis is on: policy and politics of health advocacy, ethics in public health education, and final self-assessment of skills for practice and continuing education priorities.

*Repeatable for credit.*

**Prerequisite(s):** PH 291A and PH 291B or instructor consent.  
**Grading:** Graded

*PH 295 - Research Methodology*

3 unit(s)

This course provides basic principles of research, both quantitative and qualitative. Novice researchers are familiarized with research methodology. Candidates engage in evaluating public research, and develop and write a feasible proposal ready for implementation as a research project.

**Prerequisite(s):** STAT 95 (or equivalent).  
**Grading:** Graded

*PH 298 - Graduate Project*

3 unit(s)

Development and analysis of independent activity in the field of community health education, health administration or school health.

*Repeatable for credit.*

**Prerequisite(s):** Approved graduate project proposal and instructor consent. Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

**Note(s):** More than one semester may be required to complete activity.

*PH 299 - Master's Thesis*

3 unit(s)

Supervised original research in the field of community health education.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Approved master's thesis proposal and instructor consent. Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

**Note(s):** One to two semesters and 3 to 6 units required.

*PH 1290R - Culminating Experience Supervision*

1-3 unit(s)

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class, or RFP in progress.

**Grading:** CR/NC, No Degree Credit

*RECL 10 - Creating a Meaningful Life*

3 unit(s)

Study how a meaningful life relates to the freedom to pursue happiness. Examines personal, social, and cultural bases for a creative and successful lifestyle. Learn to recognize and foster creative potential for lifelong personal growth, meaningful rewards, and leisure enjoyment.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*RECL 15 - Human Life Span*

3 unit(s)

Emphasizes growth and development of the individual from conception to death - perspective on biological, cultural, sociological and psychological changes and continuities during the human life span. Special attention will be given to socioeconomic status, gender and ethnic variations.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*RECL 90 - Foundations of Recreation Parks & Tourism*

3 unit(s)

Field of parks and recreation; history of development of the recreation profession; survey of recreation and leisure services.

**Grading:** Graded

*RECL 94 - The Outdoor Recreation Experience*

3 unit(s)

Students will explore, understand, and experience firsthand the value, meaning, and benefits of a variety of outdoor recreation activities. Socio-cultural and ecological systems will be examined as they relate to the delivery of outdoor recreation experiences in both the public and private sector.

**Grading:** Graded

*RECL 97 - Event Planning*

3 unit(s)

Principles of event planning with emphasis on development and integration of operational strategies in recreation and hospitality management. Application of programming techniques and exploration of career opportunities in event management.

*Misc/Lab: Lecture 2 hours/activity 3 hours.*

**Grading:** Graded

*RECL 100W - Writing Workshop*

3 unit(s)

Developing and enhancing written communication skills in the recreation and leisure profession in the following areas: scientific/technical writing, administrative writing, public-relations-related writing and funding proposals.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Recreation and Hospitality Management. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*RECL 110 - Leisure, Life and Contemporary Society*

3 unit(s)

Explore conceptual foundations of play, recreation and leisure and their importance in physical, social, psychological and spiritual development across the lifespan. Assess the roles of existing services in enhancing quality of life across social, cultural, economic and environmental realms.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 111 - Leisure, Culture, and Identity*

3 unit(s)

Perspectives of leisure as a source of self-expression and social control related to cultural beliefs, values, and practices and institutionalized social systems. Observation, analysis and critique of history and social structures, leisure and culture, and personal opportunities for change. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RECL 112 - Foundations of Recreation Therapy*



3 unit(s)

Fundamentals of the profession; history, delivery models, theory and practice of Recreation Therapy as a treatment modality for persons whose functional abilities are impaired. Exposure to ADA facility assessment, inclusion, and impact of social attitudes through didactic and experiential learning.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 113 - Leisure: Philosophy and Education*

3 unit(s)

Examination of philosophical, historical, psychological, and wellness foundations for education for leisure. Learning systems to facilitate the process of change through leisure opportunities for wellness.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 130 - Event Marketing in Recreation Enterprises*

3 unit(s)

Develop competence in event promotion and marketing. Explore marketing fundamentals, such as targeting an audience, creating promotional materials and pricing to cover event costs as well as event sponsorship. The role of social media in special themed events will be surveyed.

**Prerequisite(s):** RECL 97

**Grading:** Graded

*RECL 132 - Recreation Program Planning*

3 unit(s)

Learn to plan and implement programs and events for diverse individual, group and community recreation experiences using contemporary needs assessment, outcomes oriented goal setting, program/event selection, leadership techniques and evaluation tools.

**Grading:** Graded

*RECL 133 - Principles of Recreation Leadership*

4 unit(s)

In-service training workshops to develop skills in planning, implementation and evaluation processes. Self-awareness, communication and group process.

*Misc/Lab: Lecture 4 hours/Activity 2 hours*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 135 - Planning and Managing Rec Areas & Facil*

3 unit(s)

Content includes legal principles and risk management, as well as fundamentals of facility design and preventive maintenance in recreation, park, and tourism settings. This is a problem-based learning course, including case study,

problem solving, project applications, and working with stakeholders.

**Grading:** Graded

*RECL 136 - Principles of Recreation and Park Admin*

*3 unit(s)*

In the context of leadership roles and responsibilities in the field of recreation and park administration, course examines issues related to the organization and administration of human resources, finances, areas and facilities, programs, risk management, and liability.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*RECL 140A - Spec Interventions in RT:Aquatic Therapy*

*1 unit(s)*

Develop in-depth knowledge and skills related to the facilitation and supervision of a complex Recreation Therapy intervention. Includes equipment use, clinical application of each aspect of the activity or equipment, contraindications, safety, facilitation techniques, costs, industry standards, and evidence-based practices.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*RECL 140B - Spec Inter in RT: Behavior Interventions*

*1 unit(s)*

Theory and practice of interventions that positively affect healthy behaviors. Implementing prevention strategies including activity modification, assessment of harmful or disruptive behaviors, and identifying cause and effect relationships. Learn and practice teaching appropriate behaviors, increasing appropriate behaviors, decreasing inappropriate behaviors.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*RECL 140C - Spec Inter in RT: Adventure Tx*

*1 unit(s)*

Theoretical, hard, and soft skills related to adventure therapy interventions. Demonstrate skill development through facilitation. Learn diverse interventions and clinical application, modification, contraindications, and safety precautions for each based on psychiatric diagnosis served.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*RECL 143 - Festivals and Community Special Events*

*3 unit(s)*

Principles and applications for effective management of festivals, fairs and community special events; including

planning, marketing, financing, evaluating, logistics, consumer behavior, corporate sponsorship, licensing agreements, risk management, and sustainable practices.

**Grading:** Graded

*RECL 144 - Natural and Cultural Resource Interpretation in Recreation and Parks*

*3 unit(s)*

Explore the interpretive approach to communicating value and vision of nature, outdoor recreation and tourism sites. Gain skills to develop and conduct activities such as guided walks, interpretive programs and fireside chats. Learn fundamentals of creating interpretive media such as brochures, displays, and exhibits as well as e-media.

**Grading:** Graded

*RECL 148 - Biofeedback Principles and Practices*

*3 unit(s)*

Conceptual and historical review of Biofeedback theory and practice. Experiential engagement with software, instrumentation, data interpretation and personal reflection. Assessment, treatment, evaluation, and case studies applied to medical and non-medical practices.

*Lecture 2 hours/activity 2 hours.*

**Grading:** Graded

*RECL 150 - For-Profit Enterprises in Recreation*

*3 unit(s)*

Development of knowledge and skills relating to the variety and types of for-profit recreation enterprises, including planning for and management of commercial ventures, development of corporate identity and market niche, and forecasting of trends and shifts in consumer culture.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 151 - Planning and Development of Tourism and Event Enterprises*

*3 unit(s)*

Practices utilized in private profit, nonprofit and commercial sectors for planning, developing and operating leisure, tourism, and event enterprises. Management functions and consumer behavior related to products and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 152 - Non-Profit Leadership & Management*

*3 unit(s)*

Introduction to the historical and philosophical foundations of the Non-Profit sector. Provides a basic understanding of key issues in managing contemporary nonprofit organizations including: organizational behavior; board development; fund-raising; boundary-spanning skills; and developing leadership skills for social innovation and entrepreneurship.

**Prerequisite(s):** Upper Division Standing.  
**Grading:** Graded

*RECL 153 - Youth Development and Services*

3 unit(s)

Surveys the field of youth development, its historical roots, sociocultural and psychological development, and contemporary innovations. Develop knowledge of the institutional and programmatic factors that lead to positive developmental outcomes for youth in leisure and human service organizations.

**Prerequisite(s):** Upper Division Standing  
**Grading:** Graded

*RECL 155 - Outdoor Recreation Systems*

3 unit(s)

Overview of outdoor recreation in the United States. Study of the historic, social, economic and political factors influencing natural resource protection. Includes a survey of organizations that manage visitors and protected areas to provide quality outdoor recreation experiences.

**Prerequisite(s):** Upper Division Standing.  
**Grading:** Graded

*RECL 156 - Principles of Sustainable Travel and Tourism*

3 unit(s)

Examination of travel and tourism as it relates to tourist motivations, hospitality and destination management. The impact of tourism on the physical, cultural and economic environment.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*RECL 157 - Sustainable Recreation & Ecotourism*

3 unit(s)

Course examines cultural, ethical, environmental and social science issues, and uses applied research methods to achieve competence in making programmatic and resource management decisions for recreational and tourism purposes.

**Prerequisite(s):** Upper division standing  
**Grading:** Graded

*RECL 158 - Cultural and Heritage Tourism*

3 unit(s)

Heritage experiences leading to deeper cultural understanding are essential in the tourism segment of recreation. Exploration of culture and heritage using the lens of growth, popularity or compression will be examined. Discussion on practices and concerns associated with cultural heritage-based tourism.

**Grading:** Graded

*RECL 160 - Evaluation and Research in Recreation*

3 unit(s)

Students will learn about the systematic process for evaluation or research. The course focuses on three main areas: Criteria and research questions, evidence and data (data collection and data analysis), and judgment and interpretation. The course is for students interested in basic information about systematic inquiry using evaluation and research design, data collection and analysis, and data reporting.

**Prerequisite(s):** RECL 90, RECL 100W, RECL 110

**Corequisite(s):** RECL 136.

**Grading:** Graded

*RECL 165 - Senior Seminar in Recreation*

3 unit(s)

A capstone experience designed to help students synthesize and further develop skills acquired in program planning and development, implementation, and evaluation. Emphasis placed on negotiation of all phases of designing and facilitating meaningful recreation experiences in a variety of agencies and communities.

**Prerequisite(s):** Completion of 36 units of RECL coursework including RECL 90, RECL 97, RECL 110 and RECL 113. Major form completed and signed by HSR advisor and chair. Senior standing.

**Grading:** Graded

*RECL 169 - Practicum in Recreation Therapy*

1 unit(s)

Supervised 100 hour competency-based field learning in approved health agency (e.g., hospital, community health, municipal). Learning exposes the learner to different populations, interventions, terminology, resources. Learner will observe job task skills, apply knowledge, and gain abilities of Recreation Therapy practice.

**Prerequisite(s):** RECL 90

**Grading:** Credit/No Credit

*RECL 170A - Pre-Intern Workshop*

1 unit(s)

Introduces and prepares upper division majors for senior internship. Includes career goal clarification, resume development and interviewing through both workshops and online delivery.

**Prerequisite(s):** RECL 90, RECL 100W, RECL 110.

**Corequisite(s):** RECL 136, RECL 137.

**Grading:** Credit/No Credit

*RECL 170B - Internship in Recreation*

10 unit(s)

Supervised 40-hour per week internship (minimum of 12 weeks) in one of a variety of approved agencies (leisure services, park and recreation, or tourism/commercial recreation).

**Prerequisite(s):** Upper division standing; RECL 136, RECL 160, RECL 170A.

**Grading:** Credit/No Credit

*RECL 170C - Internship in Recreation Therapy*

10 unit(s)

Supervised 40-hour per week internship (minimum 15 weeks, 600 hours) occurring in approved health agencies. Supervisor must have a valid CTRS credential. Student will develop competencies as identified in the NCTRC Job Task Analysis and ATRA Standards of Practice.

**Grading:** Credit/No Credit

*RECL 180 - Individual Studies*

1-4 unit(s)

Individual work investigating special topics/problems through research, applied projects, and/or field experiences. Assessment by project(s) and/or paper(s).

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division standing, supervising instructor approval, and department chair consent.

**Grading:** Credit/No Credit

*RECL 184 - Directed Reading*

1-4 unit(s)

Directed reading in journals and books by authorities in Hospitality, Recreation, Tourism and related fields. Assessment by project(s) and/or paper(s).

**Prerequisite(s):** Upper division standing, supervising instructor approval, and department chair consent.

**Grading:** Credit/No Credit

*RECL 185 - Leisure, Recreation and Aging*

3 unit(s)

Theory and practice related to the role of leisure services in maximizing the quality of life for older adults. Interrelationship of leisure and other supportive services for older adults in community and institutional settings.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RECL 187 - Leisure Education in Recreation Therapy*

3 unit(s)

Overview of leisure education as it is used both in medical and non-medical settings to improve functioning and wellbeing among diverse clientele. Students will learn historical, philosophical, and contemporary conceptual foundations, evidence-based and practical applications to service delivery.

**Grading:** Graded

*RECL 192 - Int'l Program Studies*

1-10 unit(s)

**Grading:** Mixed Grading

*RECL 193 - RT Interventions for People with Physical Conditions*

3 unit(s)

Theoretical foundations, research, and evidenced based Recreation Therapy interventions for persons with physical, intellectual, and developmental disabilities and other chronic conditions. Focuses on rehabilitation, community reintegration, day programs, and inclusion.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*RECL 197 - Recreation Therapy in Mental Health*

3 unit(s)

Application of theory, models, concepts and facilitation processes used in Recreation Therapy and related professions for people with mental health conditions. Experiential learning and facilitation of leisure education, clinical interventions, and behavioral change processes used in medical and non-medical settings.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** Upper division status, RECL 112 and RECL 113.

**Grading:** Graded

*RECL 198 - Rec Therapy Assessment and Documentation*

3 unit(s)

Clinical procedures utilized in Recreation Therapy whereby habilitation/rehabilitation is the primary goal; client assessment, development of behavioral objectives and treatment plans, evaluation, documentation, medical terminology, and charting procedures are covered. Extensive skill development regarding critique and development of assessment tools.

**Grading:** Graded

*RECL 199 - Advanced Practices in Recreation Therapy*

3 unit(s)

The application and examination of concepts, techniques, research, and legal issues utilized by advanced practitioners and managers. Includes trends and issues related to clinical supervision, reimbursement, quality improvement, legislation, comprehensive program design, and applied research that produces evidenced based practice.

**Prerequisite(s):** RECL 112.

**Grading:** Graded

*RECL 200 - Foundations of Recreation and Tourism*

3 unit(s)

Basic philosophical, historical, and scientific foundations and developments in leisure, recreation and tourism; analyses of the significance of leisure in modern societies; critical review of major and classical writings in the field with special attention to academic writing.

**Corequisite(s):** RECL 110

**Grading:** Graded

*RECL 202 - Evaluation and Assessment in Recreation and Tourism*

3 unit(s)

Acquires knowledge and principles of evaluating selected areas in recreation and tourism services. Through use of analytical tools and processes, students learn how to write evaluation report to meet stakeholders' information and decision-making needs.

**Prerequisite(s):** RECL 200.

**Grading:** Graded

*RECL 203 - Seminar in Recreation-Park Administration*

3 unit(s)

A discussion of selected problems and their possible solutions dealing with personnel administration, planning of recreation and park areas and facilities, program organization, public relations, financial procedure, legal aspects of recreation, etc.

**Grading:** Graded

*RECL 204 - Research Methods in Recreation and Tourism*

3 unit(s)

A critical examination of the various approaches and methods used in research; a survey of research design, data collection, data coding, and analysis in the recreation, tourism and related fields.

**Prerequisite(s):** RECL 202 or instructor consent.

**Grading:** Graded

*RECL 205 - Finance in Recreation*

3 unit(s)

Examination of bases, sources and strategies for financing and marketing of recreation programs and services. Includes public, private-for-profit, nonprofit and commercial leisure service agencies.

**Grading:** Graded

*RECL 210 - Contemporary Theories in Recreation and Tourism*

3 unit(s)

Reviews theoretical and empirical social science literature in recreation and tourism. Review, interpretation and evaluation of contemporary research in recreation, leisure, tourism, and related fields.

**Prerequisite(s):** RECL 200.

**Grading:** Graded

*RECL 211 - Therapeutic Recreation Practices*

3 unit(s)

Development and analysis of individualized program plans based upon selected theoretical foundations; emphasis on assessment, program design, follow-up services. Major service delivery systems studied in depth with regard to implications for leisure service delivery affecting disabled or ill individuals.

**Grading:** Graded



*RECL 212 - Facilitation and Intervention in Therapeutic Recreation*

3 unit(s)

Theories of intervention and facilitation integrated with methodology to recognize the interdependence of the individual and the environment. Direct and enabling technique application to the therapeutic recreation profession analyzed for situational effectiveness.

**Grading:** Graded

*RECL 213 - Advanced Professional Therapeutic Recreation Practices*

3 unit(s)

Professional practices, including in-service and pre-service training, consultation and group facilitation; processes for addressing professional trends and issues, including credentialing, legislative processes, interdisciplinary service delivery and networking.

**Prerequisite(s):** RECL 211 and RECL 212.

**Grading:** Graded

*RECL 215 - International Tourism Trends and Issues*

3 unit(s)

Analyze international tourism concepts, trends, and issues associated with development. Study goals and procedures for basic and applied tourism research and introduce varied information sources for independent research. Adopt a culturally sensitive perspective for interpreting information related to different cultures.

**Grading:** Graded

*RECL 216 - Marketing for Tourism and Recreation*

3 unit(s)

Study of characteristics which define cultural groups around the world. Learn to adjust marketing approaches, materials, and technology to accommodate the different ways people communicate to attract specific markets. Includes field-based market research.

**Grading:** Graded

*RECL 217 - Information Technology and Tourism*

3 unit(s)

Analysis of concepts, trends, and issues associated with technology and tourism development. History and applications of various information technologies in tourism businesses. Trends in technology and the impact on the travel industry.

**Grading:** Graded

*RECL 218 - Tourism Planning and Development*

3 unit(s)

Review, analysis, and application of concepts, strategies, techniques, and approaches associated with destination tourism planning, development, and management. Emphasis is on integrated and sustainable tourism planning and development models at global, national, regional, and local/community levels.

**Grading:** Graded

*RECL 219 - Cultural and Heritage Tourism*

3 unit(s)

Introduction to the concerns and issues involved in studies of heritage, tradition, historic preservation, public archaeology, and heritage tourism.

**Grading:** Graded

*RECL 265 - Graduate Research Seminar*

3 unit(s)

Presentation, discussion, and evaluation of leisure research.

**Prerequisite(s):** RECL 200, RECL 202, or instructor consent.

**Grading:** Graded

*RECL 270 - Graduate Internship in Recreation and Tourism*

3 unit(s)

A 12-week, 15 hours per week of applied management experience in a leisure service or tourism organization under the joint supervision of a faculty advisor and an organizational representative.

**Prerequisite(s):** RECL 200, RECL 202, RECL 204.

**Grading:** Graded

*RECL 298 - Special Studies*

1-3 unit(s)

Individual work investigating special topics/problems through research and/or applied projects.

**Prerequisite(s):** RECL 202

**Grading:** Mandatory CR/NC/RP

*RECL 299 - Master's Thesis*

1-6 unit(s)

Supervised thesis in the field of recreation or tourism.

**Prerequisite(s):** Admission to candidacy for the master's degree; RECL 202

**Grading:** Mandatory CR/NC/RP

## Department of Military Science (Army ROTC)

**Office:** Department of Military Science; Varsi Hall, Room 232, Santa Clara University; 500 El Camino Real, Santa Clara, CA 95053

**Telephone:** 408-554-6840

**Enrollment Officer Email:** Mario Morales (mcmorales@sjsu.edu)

**Website:** [www.sjsu.edu/armyrotc](http://www.sjsu.edu/armyrotc)

### **Professors**

Jose A. Alfaro  
Ernesto Alvarez  
Coby E. Carpentier  
Dan Fisher  
Amin S. Henriquez  
John Tiedeman

## **Overview**

Military Science offers an interdepartmental minor which consists of courses taught by active duty Army personnel. The purpose of the minor is to acquaint the university student with the fundamental principles of national security and military history, to introduce the techniques and principles of modern warfare, and to develop character and leadership skills. All undergraduate students are eligible for a minor in Military Science. Those wishing a career as an Army Officer after graduation should contact the Department of Military Science.

## **Basic Course**

Fundamentals of Leadership and Management. The term Basic Course refers to first and second year courses (MILS 1A-MILS 1B, and MILS 2A,MILS 2B, MILS 2C), which are designed for beginning students who want to qualify for entry into the Advanced Course and for those students who may want to try Military Science without obligations. A number of popular or challenging extracurricular activities are associated with these courses. A student can also qualify for entry into the Advanced Course by completing only the summer encampment, Leader's Training Course (LTC) (MILS 2C). Outstanding students in this course may receive a two-year scholarship.

## **Advanced Course**

Advanced Leadership and Management. The Advanced Course consists of the courses MILS 2A,MILS 2B, MILS 2C, and MILS 140A-MILS 140B. It is open to students who have completed the Basic Course or earned placement credit for it (various methods). The Advanced Course qualifies a student for a commission as an officer in the United States Army. Students must complete MILS 130C, a five week leadership evaluation camp during the summer, in sequence unless otherwise approved by the Professor of Military Science. Students receive a monthly stipend during the school year. Students who do not desire to compete for a commission as an officer in the Army may take these courses for academic credit with approval by the Professor of Military Science.

## **Labs and Field Exercises**

During each semester of class work, weekly leadership lab participation is required. Two off-campus exercises involving adventure training, rappelling, rifle marksmanship, leadership training and survival skills are optional for non-scholarship basic course students. Two off-campus exercises for Advanced course students are mandatory with the focus on leadership and military skills.

## **Minor**

## Military Science Minor

The Military Science Minor is offered by the Department of Military Science (Army ROTC). The Military Science Minor Form is required to declare Military Science Minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (16 or 24 units)

Select Plan A (24 units) or Plan B (16 units).

#### Plan A (24 units)

*These courses are Without military obligation or basic camp.*

- MILS 1A - Leadership & Personal Development 2 *unit(s)*
- MILS 1B - Introduction to Tactical Leadership 2 *unit(s)*
- MILS 2A - Innovative Team Leadership 2 *unit(s)*
- MILS 2B - Foundations of Tactical Leadership 2 *unit(s)*
- MILS 130A - Adaptive Team Leadership 4 *unit(s)*
- MILS 130B - Applied Team Leadership 4 *unit(s)*
- MILS 140A - Adaptive Leadership 4 *unit(s)*
- MILS 140B - Leadership in a Complex World 4 *unit(s)*

#### Plan B (16 units)

*With military service or basic camp.*

- MILS 130A - Adaptive Team Leadership 4 *unit(s)*
- MILS 130B - Applied Team Leadership 4 *unit(s)*
- MILS 140A - Adaptive Leadership 4 *unit(s)*
- MILS 140B - Leadership in a Complex World 4 *unit(s)*

### Total Units Required (16 or 24 units)

*MILS 1A - Leadership & Personal Development*

*2 unit(s)*

Introduction to the personal challenges and competencies that are critical for effective leadership. The focus is on developing basic knowledge and comprehension of Army leadership dimensions while gaining a big picture understanding of the ROTC program.

**Grading:** Graded

*MILS 1B - Introduction to Tactical Leadership*

2 unit(s)

Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students explore leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises.

**Grading:** Graded

*MILS 2A - Innovative Team Leadership*

2 unit(s)

Explores creative and innovative tactical leadership strategies and styles by examining team dynamics and trait and behavior theories. Students practice aspects of personal motivation and team building during planning, executing, and assessment of team exercises and participation in leadership labs.

**Grading:** Graded

*MILS 2B - Foundations of Tactical Leadership*

2 unit(s)

Examines the challenges of leading tactical teams in today's complex world. The course highlights dimensions of terrain analysis, patrolling, and orders. Students develop greater awareness as they assess their own leadership styles and practice communication and team building skills.

**Grading:** Graded

*MILS 130A - Adaptive Team Leadership*

4 unit(s)

Challenges students to study, practice, and evaluate adaptive leadership skills as they overcome challenging squad tactical operations scenarios. Cadets hone their leadership and critical thinking while they prepare for success at ROTC's summer Leadership Development and Assessment Course (LDAC).

**Grading:** Graded

*MILS 130B - Applied Team Leadership*

4 unit(s)

Uses situational team leadership challenges to build awareness and skills in leading small units. Students review aspects of full spectrum operations, and conduct military briefings to develop proficiency giving operation orders. This is the final course before students attend LDAC.

**Grading:** Graded

*MILS 140A - Adaptive Leadership*

4 unit(s)

Students learn how to train, mentor and evaluate underclassmen. They will learn the duties and responsibilities of an Army staff officer and apply those lessons during weekly training meetings to plan, execute and assess battalion training events.

**Grading:** Graded

*MILS 140B - Leadership in a Complex World*

4 unit(s)

Explores the realities of leading in the Contemporary Operating Environment (COE). Students learn to adapt to operations in unfamiliar lands and international terrorism. The course places significant emphasis on preparing cadets for their first assignment in the US Army.

**Grading:** Graded

*MILS 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Instructor consent and Military Science Chair approval.

**Grading:** Credit/No Credit

*MILS 199 - American Military History*

3 unit(s)

A survey of diplomatic, international, military and economic aspects of American involvement in conflicts from the Anglo-Indian Wars to present time. Study of leadership, weapons technology, politics, humanitarian operations and critical thinking.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

## School of Social Work

**Office:** Washington Square Hall 215

**Telephone:** 408-924-5800

**Email:** [socialwork@sjsu.edu](mailto:socialwork@sjsu.edu)

**Website:** [www.sjsu.edu/socialwork](http://www.sjsu.edu/socialwork)

### Professors

Edward Cohen  
Amy D'Andrade  
Sadhna Diwan  
Laurie Drabble  
Meekyung Han  
Peter Allen Lee, Director  
Sang Lee  
Migdalia Reyes  
Soma Sen

### Associate Professors

Emily J. Bruce  
Nicole Dubus

Mike Gorman  
Kathy Lemon

## Overview

Social work is a dynamic and challenging profession that presents exceptional opportunities for personal job satisfaction. A professional social worker helps people cope with interpersonal and social problems and obtain the resources they need to live with dignity. Additionally, social workers help communities mobilize and deliver the services and support they require. The School of Social Work is committed to the core values of service, social justice, the dignity and worth of individuals, human rights, competence, integrity and scientific inquiry. We honor diversity. Employing a transcultural perspective, we train our students to practice professionally in a broad range of groups, including Latinos, Asian and Pacific Islanders, African Americans, the disenfranchised and the marginalized. Our undergraduate and graduate degree programs are accredited by the Council on Social Work Education. Our On-Campus MSW Program may be completed in two or three years; our Online/Hybrid MSW Program is completed in two years through continuous part-time enrollment.

## Undergraduate

### Social Work, BA

The BASW program, which is offered by the School of Social Work and has been fully accredited by the Council on Social Work Education since 1976, educates generalist social work practitioners with a liberal arts foundation for practice from a transcultural perspective with individuals, families, and groups within organizations and in the context of broader communities in which they are embedded. To develop the necessary professional generalist skills in their work with individuals, families, groups, and communities, the BASW program curriculum and field practicum experiences provide students with learning opportunities to develop: 1) a selected body of knowledge about social institutions, and methods of problem-solving in social relationships; 2) the skills for integrating knowledge, thought, and feeling into an effective and efficient program of doing; and, 3) a personal and professional value system which incorporates a growing self-awareness necessary for the sensitive and disciplined use of self in helping roles.

In addition to the core social work curriculum, which includes human behavior in the social environment, social policy and programs, practice, social research, and field education, electives are offered to expand a student's interest in the areas of social work with families; social services to children and youth; alcoholism and substance abuse and the family.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	50
Major Preparation	3
Major Requirements	38
University Electives	29
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Requirements of the Major**

All students must complete SCWK 110, SCWK 120, and SCWK 130 with a passing grade of "C" or better and receive a grade of "Credit" in SCWK 140 before moving forward to other advanced Social Work courses (SCWK 111, SCWK 112, SCWK 175) or to the field education program (SCWK 141, SCWK 142).

### **Major-Specific Graduation Requirements**

The following courses Required in the Major must be completed with a grade of "C or better": SCWK 110, SCWK 112, SCWK 120, SCWK 130, and SCWK 175. The following course must be completed with "Credit": SCWK 140

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (50 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Complete One Sequence From:**

### African American Studies (6 units)



- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (3 units)

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)

### Major Requirements (38 units)

- SCWK 110 - Foundations of Social Work Practice 3 *unit(s)*
- SCWK 111 - Generalist Social Work Practice I 3 *unit(s)*
- SCWK 112 - Generalist Practice II 3 *unit(s)*
- SCWK 120 - Social Welfare Institutions and Policies I 3 *unit(s)*
- SCWK 121 - Social Welfare Institutions and Policies II 3 *unit(s)*
- SCWK 130 - Human Behavior in the Social Environment I 3 *unit(s)*
- SCWK 131 - Human Behavior in the Social Environment II 3 *unit(s)*
- SCWK 140 - Introduction to Field Practicum 3 *unit(s)*
- SCWK 141 - Field Practicum I 2-5 *unit(s)* (4 *units* required)
- SCWK 142 - Field Practicum II 2-5 *unit(s)* (4 *units* required)

- SCWK 170 - Introduction to Research Methods 3 *unit(s)*
- SCWK 175 - Social Work Senior Seminar 3 *unit(s)*

University Electives (29 units)

Total Units Required (120 units)

## Master

### Social Work, MSW

- Admissions Requirements
- Requirements for Advancement to Candidacy
- Requirements for Graduation
- Master's Requirements (60 units)
- Program Learning Outcomes

The MSW Program offers graduate professional education in advanced generalist social work practice from a transcultural multi-systems perspective. It prepares graduates for advanced practice and leadership in areas of interest such as: aging; children, youth, and families; and health/mental health. The curriculum emphasizes the application of skills in those areas of practice where the need for social workers in the next decade will be the greatest in the State of California. The graduate program, offered by SJSU's School of Social Work has been fully accredited by the national Commission on Accreditation of the Council on Social Work Education since 1973.

**Department Website:** [www.sjsu.edu/socialwork](http://www.sjsu.edu/socialwork).

## Admissions Requirements

### University Admissions Requirements

All graduate applicants must submit a complete graduate application by applying through the CSU Cal State Apply system. Candidates must meet all university-level admissions requirements.

### Program Admissions Requirements

In addition to these general requirements established by the university, applicants for admission for the Master's of Social Work degree must demonstrate a commitment to social work goals either by having completed undergraduate social work education, or by holding a baccalaureate in a related field and having significant experience, and/or personal involvement with social issues as they relate to various marginalized groups and communities.

To be admitted to the School of Social Work, an applicant must first complete the graduate application for admission to the University through [calstate.edu/apply](http://calstate.edu/apply). The applicant then submits a separate application to the MSW program which includes:

1. A personal statement describing the applicant's interest in the field and professional goals.

2. Three recommendations from professionals in the field or former professors who can testify to the applicant's ability to succeed in a graduate-level academic program and his or her suitability to meet the challenges of the profession.
3. A description of all social work-related experience (paid, internship and/or volunteer).
4. A sample of the applicant's best writing, i.e., a paper written for an upper-division or graduate-level class, technical report, or other example of academic or professional written work.

Applications to the Master's in Social Work program and all supporting materials must be sent directly to the School of Social Work for review and recommendation by the MSW Program Admissions Committee.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Conditionally Classified Standing

An applicant who does not meet all requirements for admission in classified standing for the Master's in Social Work may be admitted into the program on a conditionally classified basis. The MSW Program Admissions Committee may consider applicants who possess strong or considerable work experience and who can by additional preparation remedy minor academic deficiencies. Such admissions will be conditional upon completion of specific courses listed by the graduate advisor on the admission notification.

## Requirements for Advancement to Candidacy

Students must complete all university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

The student will consult with the MSW graduate advisor to complete a petition for advancement to candidacy. The petition includes an official plan of study listing all courses needed to complete the requirements for the degree. The plan of study must be approved by the MSW Graduate Advisor and then by the Office of Graduate Admissions and Program Evaluations (GAPE), which notifies the student of advancement to candidacy.

The student must also demonstrate an aptitude for advanced study in social work, as measured by successful completion of the Foundation Year of study, instructor appraisals, and/or evaluation of previous academic work (i.e., applicable transfer units or course substitutions).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MSW - Graduation Requirements

The School of Social Work offers an On-Campus MSW Program and an Online/Hybrid MSW Program.

All students in the Master's of Social Work program must complete a total of 60 semester units of study in social work with a minimum cumulative grade point average of 3.0 overall. This includes two years (1,200 hours) of field internship in a social agency or community setting selected and approved by the MSW Field Education Committee. Students must pass all letter-graded classes with a "C" or better grade, and pass all field practicum courses with a credit "CR" grade.

## **On-Campus MSW Program**

The On-Campus MSW Program offers a Two-Year/Full-Time and Three-Year/Part-Time plan of study. The Two-Year Plan requires a full-time commitment to the program. The Three-Year plan is designed for working professionals. It includes two years of field practicum and coursework spread over three academic years, with many courses taught in the evening and on weekends. Both plans have identical course requirements for completing the degree.

To assist matriculated students in progressing more rapidly toward their MSW degree and to increase accessibility to the course curriculum for both Two-Year/Full-Time and Three-Year/Part-Time students, the MSW Program sometimes offers courses during the summer and winter terms when the budget allows for this. The number and type of courses are dependent upon student interest and faculty resources.

For detailed information on the program, see the School of Social Work "Masters of Social Work (MSW)" webpage: [www.sjsu.edu/socialwork](http://www.sjsu.edu/socialwork).

## **Graduation Writing Assessment Requirement**

Students must pass the Graduation Writing Assessment Requirement (GWAR).

## **Culminating Experience: Project (Plan B)**

Candidates for the degree complete a capstone project as part of their 60-unit degree requirement. This project is a complete research study on a social work-related topic.

## **Online/Hybrid MSW Program (Special Session Program)**

The Online/Hybrid MSW Program is a two-year program that requires continuous part-time enrollment (i.e., two to three academic courses and a field education course concurrently through the calendar year). In this program, academic courses are completed online (with asynchronous sessions and synchronous sessions usually on weekday evenings), and field education is completed in-person. "Note that the two Online/Hybrid MSW areas of interest are children, youth, and families; and health/mental health. Aging is not currently offered consistently in the Online/Hybrid MSW Program. The Online/Hybrid MSW Program degree requirements and the social work competencies covered are the same as those of the On-Campus MSW Program.

## **Special Session Program Information**

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll

simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the Special Session for more information.

## Master's Requirements (60 units)

### Foundation Core Curriculum (32 units)

- SCWK 200W - Social Work Graduate Writing Course 3 *unit(s)* (GWAR)
- SCWK 202 - Social Policy and Services: History and Values 3 *unit(s)*
- SCWK 204 - Social Policy Analysis 3 *unit(s)*
- SCWK 212 - Human Behavior in Social Environment I 3 *unit(s)*
- SCWK 214 - Human Behavior in Social Environment II 3 *unit(s)*
- SCWK 220 - Transcultural Generalist Practice I 3 *unit(s)*
- SCWK 221 - Transcultural Generalist Practice II 3 *unit(s)*
- SCWK 230 - Social Work Practicum I 1-6 *unit(s)*
- SCWK 231 - Social Work Practicum II 1-6 *unit(s)*
- SCWK 240 - Research Methods and Design 3 *unit(s)*

### Advanced Year Core Curriculum (12 units)

## Transcultural Multi-Systems Areas of Interest

### Advanced Practice (3 units)

Complete one course:

- SCWK 222 - Transcultural Advanced Generalist Practice I: Family Systems Focus 3 *unit(s)*
- SCWK 223 - Transcultural Advanced Generalist Practice II: Community Systems Focus 3 *unit(s)*
- SCWK 251 - Social Work in Health and Aging 3 *unit(s)*
- SCWK 261 - Social Work Practice with Children 3 *unit(s)*
- SCWK 262 - Social Work Practice with Adolescents 3 *unit(s)*
- SCWK 265 - Child Welfare Practice in Public and Government Systems 3 *unit(s)*
- SCWK 272 - Social Work in Educational Settings 3 *unit(s)*
- SCWK 281 - Social Work in Mental Health 3 *unit(s)*

### Advanced Policy (3 units)

Complete one course:

- SCWK 250 - Policy Practice in Health and Aging 3 *unit(s)*
- SCWK 260 - Policy Practice in Child and Family Welfare 3 *unit(s)*
- SCWK 280 - Policy Practice in Mental Health 3 *unit(s)*

### Advanced General Electives (6 units)

Two courses selected in consultation with graduate advisor.

- SCWK 224 - Advanced Generalist Practice With Spanish Speaking Populations 3 *unit(s)*
- SCWK 263 - Social Work and the Law 3 *unit(s)*
- SCWK 283 - Psychopharmacology for Social Workers 3 *unit(s)*
- SCWK 285 - Social Work and Social Problems 3 *unit(s)*
- SCWK 287 - Advanced Generalist Practice in Substance Abuse 1-3 *unit(s)*
- An additional 200-level course selected in consultation with graduate advisor.

## Practicum (10 units)

- SCWK 232 - Social Work Practicum III 1-6 *unit(s)*  
*Students generally take 5 units of SCWK 232.*
- SCWK 233 - Social Work Practicum IV 1-6 *unit(s)*  
*Students generally take 5 units of SCWK 233.*

## Culminating Experience: Project (Plan B) (6 units)

- SCWK 298A - Special Study A 1-4 *unit(s)* (3 units required)
- SCWK 298B - Special Study B 1-4 *unit(s)* (3 units required)
- Comprehensive Examination 0 *unit(s)*

## Total Units Required (60 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Social Work Minor

The minor in Social Work consists of 18 units and is designed to enrich the student's major area of study by providing an understanding of the values and structures of current human service programs within a historical and developmental framework. Admission into the minor program is based on the availability of space.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

- SCWK 10 - Introduction to Social Welfare and Social Work 3 *unit(s)*

- SCWK 110 - Foundations of Social Work Practice 3 *unit(s)*
- SCWK 120 - Social Welfare Institutions and Policies I 3 *unit(s)*
- SCWK 130 - Human Behavior in the Social Environment I 3 *unit(s)*

## Department Electives (6 units)

Complete two courses from:

- SCWK 121 - Social Welfare Institutions and Policies II 3 *unit(s)*
- SCWK 131 - Human Behavior in the Social Environment II 3 *unit(s)*
- SCWK 140 - Introduction to Field Practicum 3 *unit(s)*
- SCWK 170 - Introduction to Research Methods 3 *unit(s)*
- SCWK 192 - Social Work with Families 3 *unit(s)*

## Total Units Required (18 units)

# Credential

## Credential in Spanish Language Counseling

A **Credential in Spanish Language Counseling** is available to students who, through coursework or examination, show evidence of competency to conduct counseling/ therapy in Spanish.

This credential is for BASW and MSW students demonstrating advanced levels of Spanish language proficiency and social work practice skills. There are two ways of obtaining the certificate: (1) taking SCWK 224, an elective course that uses cultural, linguistic competencies, and social work skills in the delivery of services to Latino client systems; (2) taking an exam (offered near the time of graduation). For more information, please contact Dr. Migdalia Reyes at Migdalia.Reyes@sjsu.edu.

## Pupil Personnel Services (PM-PPSC) Post-Master's Credential

Post-Master's Pupil Personnel Services Credential (PM-PPSC), prepares individuals already with an MSW degree to qualify to be credentialed by the State of California as school social workers. Please see the School of Social Work website for PM-PPSC program website information and application process.

Students accepted into the PM-PPSC program must take and pass the following courses offered through Special Sessions.

## Credential Requirements (7-10 units)

- SCWK 263 - Social Work and the Law 3 *unit(s)*
- SCWK 272 - Social Work in Educational Settings 3 *unit(s)*
- An appropriate school-based internship approved by the Field Education program, i.e., through SCWK 230 and SCWK 231 1-4 *unit(s)*

## Total Units Required (7-10 units)

# Pupil Personnel Services (PPSC) Credential

The **Pupil Personnel Services Credential (PPSC)** may be obtained by students who are completing the MSW degree in our program, the CBEST, and meet the PPSC program requirements. The PPSC is obtained in School Social Work and Child Welfare and Attendance. Students must accept placement in an approved PPSC program school setting for their second year practicum.

\* Students in the MSW Program must consult with the MSW Program Coordinator and Advisor prior to starting the process to earn a PPSC.

\* While enrolled in the MSW Program, students wanting to earn a PPSC must take and pass the following courses:

## Credential Requirements (14-16 units)

- SCWK 263 - Social Work and the Law 3 unit(s)
- SCWK 272 - Social Work in Educational Settings 3 unit(s)
- An appropriate school-based internship approved by the Field Education program, i.e., through SCWK 232 and SCWK 233 8-10 unit(s)

## Total Units Required (14-16 units)

### *GERO 99 - Death, Dying and Religions*

3 unit(s)

Is death the end or the beginning? Learn how people integrate the physical, emotional, psychological, and spiritual dimensions of living and dying. Examine religious teachings and practices for making death personally meaningful, socially significant, or even politically powerful.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *GERO 107 - Aging and Society*

3 unit(s)

Social, psychological and physiological aging processes. Implications of aging for individuals and societies, with emphasis on issues related to diversity, equality and gender in the U.S.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

### *GERO 108 - Health in Later Life*



3 unit(s)

Normal age-related health changes and common illnesses in later life. Health status, behavior and attitudes of older adults. The continuum of health care services. Professional and ethical issues in service delivery.

**Prerequisite(s):** College biological sciences course.

**Grading:** Graded

*GERO 111 - Medical Ethics*

3 unit(s)

Selected ethical problems in health care practices. For example, abortion, patient rights, national health care, euthanasia and genetic engineering, with emphasis on philosophical methods.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*GERO 114 - Psychology of Aging*

3 unit(s)

Psychological development of middle-aged and older adults emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes. Course content also includes age-related health problems and their prevention.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*GERO 116 - Aging and Nutrition*

3 unit(s)

The aging process, physiological changes, dietary requirements, diseases, environmental factors, housing, economic status, handicaps, personal relations and current programs for the aged.

**Prerequisite(s):** One college nutrition course or instructor consent.

**Grading:** Graded

*GERO 117 - Social Policy and Services in Aging*

3 unit(s)

Social policy on aging from a historical perspective. Implications for service to the elderly. Indicators for future program projections.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GERO 118 - Long Term Care Services*

3 unit(s)

History and organization of the continuum of long term care for U.S. families, financing and regulatory policies, and factors influencing the quality of care. Professional and ethical issues facing long term care providers.

**Prerequisite(s):** GERO 107 or PH 162

**Grading:** Graded

*GERO 122 - Women in the Second Half of Life*

3 unit(s)

The roles and problems of the older woman in a changing society. Societal attitudes, stereotypes, employment and interaction patterns. Opportunity for focus on specific areas of interest.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*GERO 127 - Aging and Mental Health*

3 unit(s)

Theories and concepts of psychological adaptation, common emotional problems, functional disorders and organic disorders in late life. Assessment, prevention and treatment of mental health problems of elderly individuals and their caregivers.

**Prerequisite(s):** PSYC 1 (or equivalent).

**Grading:** Graded

*GERO 133 - Gerontology Field Work*

3 unit(s)

Supervised work experience in an organization providing services to older adults. Short-term projects, observation of organizational dynamics and individual skills development.

**Prerequisite(s):** Completion of 9 units in gerontology.

**Grading:** Credit/No Credit

*GERO 137 - Families, Aging, and Diversity*

3 unit(s)

Family relationships of older adults in diverse U.S. ethnic groups. Current patterns of family and formal assistance to elders with disabilities. Critical analysis of eldercare policies and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GERO 156 - Independent Living for the Aging and Disabled*

3 unit(s)

Identification and application of basic management concepts used by the disabled and aging in daily living.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GERO 166 - Medical Sociology*

3 unit(s)

Sociological analysis of medical and mental health institutions, values and roles. Patient-doctor interaction, influence of hospital structure on health care, social class and illness, cultural determinants of illness and related areas of old age (gerontology) and death.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*GERO 166M - Iss Nurs Home Care*

1 unit(s)

**Grading:** Graded

*GERO 167A - Fam Counsel Elder*

2 unit(s)

**Grading:** Graded

*GERO 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics in gerontology by arrangement.

**Prerequisite(s):** Coordinator approval and upper division standing.

**Grading:** Credit/No Credit

*GERO 185 - Leisure, Recreation and Aging*

3 unit(s)

Theory and practice related to the role of leisure services in maximizing the quality of life for older adults. Interrelationship of leisure and other supportive services for older adults in community and institutional settings.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GERO 251 - Social Work in Health and Aging*

3 unit(s)

Knowledge and skill development for practice from a transcultural multi-systems perspective in aging and health care settings. Emphasis on Latino, African American, Asian American, and other diverse client systems. Conceptual frameworks for practice at micro, mezzo, and macro levels.

**Prerequisite(s):** SCWK 220 and SCWK 221.

**Grading:** Graded

*GERO 260 - Multidisciplinary Health Promotion in Later Life*

3 unit(s)

Multidisciplinary assessment and planning. Principles of promoting health and preventing disability in later life. Physical, psychological, social, cultural, spiritual, and environmental factors that affect length and quality of life.

**Prerequisite(s):** BIOL 66 or GERO 108 or instructor consent.

**Grading:** Graded

*GERO 265 - Seminar in Cognitive Disorders*

3 unit(s)

Provides a framework for better understanding the process of cross-generational communication and the improvement of communication competencies for interaction with cognitively impaired persons.

**Grading:** Graded

*GERO 268 - Lifespan Development*

3 unit(s)

Examination of human development across the lifespan, through multiple theoretical and cultural perspectives, with a holistic integration of physical, cognitive, and socio-emotional aspects of development. To deepen knowledge to assist children, adolescents, and adults with life challenges.

**Grading:** Graded

*GERO 298 - Special Project*

3 unit(s)

Supervised research in the field of gerontology to be taken only with approval of the program coordinator.

**Grading:** Mandatory CR/NC/RP

*GERO 299 - Master's Thesis or Project*

3-6 unit(s)

Supervised individual research in gerontology. Preparation for doctoral level study.

**Prerequisite(s):** Admission to candidacy for the master's degree and instructor consent.

**Grading:** Mandatory CR/NC/RP

*SCWK 10 - Introduction to Social Welfare and Social Work*

3 unit(s)

Social welfare institutions and the social work profession: its development, knowledge base, value system and specific areas of direct practice.

**Grading:** Graded

*SCWK 100W - Writing Workshop*

3 unit(s)

Focuses on developing and enhancing writing and presentation skills vital to the social work profession in the following areas: research, grant writing, clinical documentation, and administration. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*SCWK 107 - Aging and Society*

3 unit(s)

Social, psychological and physiological aging processes. Implications of aging for individuals and societies, with emphasis on issues related to diversity, equality and gender in the U.S.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SCWK 110 - Foundations of Social Work Practice*

3 unit(s)

Introduction to the history, mission, values, skills and knowledge base of generalist social work practice within a transcultural perspective. Focus on social work practice with emphasis on those populations-at-risk who are disenfranchised and marginalized.

**Prerequisite(s):** Junior standing, Social Work majors only.

**Grading:** Graded

*SCWK 111 - Generalist Social Work Practice I*

3 unit(s)

Knowledge, values and skills for generalist social work practice utilizing problem-solving methods with systems of all sizes. Focus on developing professional relationships, defining issues, communication skills, collecting data and assessing individuals from diverse backgrounds interacting with their environments.

**Prerequisite(s):** SCWK 110, SCWK 120, SCWK 130, SCWK 140.

**Corequisite(s):** SCWK 141.

**Grading:** Graded

*SCWK 112 - Generalist Practice II*

3 unit(s)

Knowledge, values and skills for generalist social work practice with emphasis on families, groups, organizations and communities. Focus on transactions to optimize social well-being and empowerment of individuals, families and communities utilizing strengths and transcultural perspectives.

**Prerequisite(s):** SCWK 111 (with a grade of "C" or better).

**Corequisite(s):** SCWK 142.

**Grading:** ABC-/NC Grading

*SCWK 120 - Social Welfare Institutions and Policies I*

3 unit(s)

Development of social work as a profession, including mission, values, ethics. Development and changes in the philosophy, legislative base and structures for social services as these affect social and economic justice and impact

health and well-being.

**Prerequisite(s):** Junior standing, Social Work majors only.

**Grading:** Graded

*SCWK 121 - Social Welfare Institutions and Policies II*

*3 unit(s)*

Methodology and framework for analyzing social policy and understanding institutional discrimination, particularly related to populations-at-risk and other disenfranchised groups. Political and organizational processes to influence policy development.

**Prerequisite(s):** SCWK 120, junior standing, Social Work majors only.

**Grading:** Graded

*SCWK 130 - Human Behavior in the Social Environment I*

*3 unit(s)*

Theories and knowledge of bio-psycho-social development from birth to old age. The dynamics of interacting social systems and culture on human development. Theories and research on risk and resilience. Human diversity and populations-at-risk emphasized.

**Prerequisite(s):** Junior standing, Social Work majors only.

**Grading:** Graded

*SCWK 131 - Human Behavior in the Social Environment II*

*3 unit(s)*

Theories and knowledge about families, groups, organizations, and communities from a systems perspective. The impact of discrimination, economic deprivation and oppression on populations-at-risk. Emphasis on the promotion of optimal health and well-being.

**Prerequisite(s):** junior standing., Social Work majors only.

**Grading:** Graded

*SCWK 140 - Introduction to Field Practicum*

*3 unit(s)*

Direct involvement with community services to provide the student with exposure to clients/client systems prior to Field Practicum I. Six to eight hours weekly in community-based agencies and on-campus seminars.

**Pre/Corequisite(s):** SCWK 110 or consent of advisor. Social Work majors only.

**Grading:** Credit/No Credit

*SCWK 141 - Field Practicum I*

*2-5 unit(s)*

Generalist social work practice with individuals, families and communities from a transcultural perspective in an agency under supervision. Sixteen hours per week required in placement.

**Prerequisite(s):** SCWK 110, SCWK 120, SCWK 130 and SCWK 140.

**Corequisite(s):** SCWK 111.

**Grading:** Credit/No Credit

*SCWK 142 - Field Practicum II*

*2-5 unit(s)*

Generalist social work practice in an agency setting continued. Emphasis on individuals, small groups and communities from a transcultural perspective. Sixteen hours per week required in placement.

**Prerequisite(s):** SCWK 111, SCWK 141.

**Corequisite(s):** SCWK 112.

**Grading:** Credit/No Credit

*SCWK 170 - Introduction to Research Methods*

*3 unit(s)*

Scientific and analytic approaches to building knowledge for social work practice, including ethical issues in social research. Evaluation of service delivery systems using qualitative and quantitative research methodologies.

**Prerequisite(s):** Junior standing , Social Work majors only.

**Pre/Corequisite(s):** STAT 95.

**Grading:** Graded

*SCWK 175 - Social Work Senior Seminar*

*3 unit(s)*

An integrative capstone seminar reviewing current trends, problems and issues confronting the profession. Developments and challenges in California and the country for BA level generalist practitioners evaluated in light of the student's own personal and professional goals.

**Pre/Corequisite(s):** SCWK 175 is open to Social Work majors only; must be taken concurrently with SCWK 112 and SCWK 142; or taken in the semester immediately following completion of SCWK 142, and all other Social Work courses must have been completed.

**Grading:** ABC-/NC Grading

*SCWK 180 - Individual Studies*

*1-4 unit(s)*

Individual work on special topics by arrangement.

**Prerequisite(s):** Department major.

**Grading:** Credit/No Credit

*SCWK 192 - Social Work with Families*

*3 unit(s)*

Exploration of various family forms, cultural factors and dynamics influencing family interaction with agencies and community. Practice strategies include assessment, defining strengths and focusing on interventions to promote health and well-being.

**Prerequisite(s):** SCWK 110, SCWK 120 or SCWK 130 (or equivalent).

**Grading:** Graded

*SCWK 192I - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*SCWK 200W - Social Work Graduate Writing Course*

3 unit(s)

Course is a graduate writing course with emphasis on the development of English writing skills for academic purposes. Special emphasis is given on School of Social Work's (SJSU) Transcultural perspective.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*SCWK 202 - Social Policy and Services: History and Values*

3 unit(s)

History of social welfare and work with emphasis on diverse populations, particularly Latinos/as, African Americans and Asian Americans. Social policy and social work values in relation to practice issues and social services.

**Grading:** Graded

*SCWK 204 - Social Policy Analysis*

3 unit(s)

Frameworks for analyzing social policies using principles of social and economic justice. The role of policy in helping or deterring people in attaining well-being. Focus on diverse populations and populations-at-risk.

**Prerequisite(s):** SCWK 202.

**Grading:** Graded

*SCWK 212 - Human Behavior in Social Environment I*

3 unit(s)

Systems and ecological models presented with the transcultural perspective provide the primary theoretical foundation. Life course perspective is applied from infancy to end of adult life cycle to understand behaviors of individuals and families with special emphasis on marginalized groups.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*SCWK 214 - Human Behavior in Social Environment II*

3 unit(s)

Systems and ecological models provide the primary theoretical foundation. Special focus is given to transcultural perspective within the contexts of mezzo (families and small groups) and macro social work (organizations and



communities) with marginalized populations.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** SCWK 212.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*SCWK 215 - Advanced Standing Bridge Integrated*

*4 unit(s)*

Summer bridge course for the Advanced Standing Masters of Social Work Program. It is intended to supplement the foundational knowledge, skills, and values developed by qualified students in respective BSW program.

**Grading:** Graded

*SCWK 220 - Transcultural Generalist Practice I*

*3 unit(s)*

Transcultural generalist practice with client systems, particularly individuals and families, at micro, mezzo and macro levels. Assessment, planning and implementing interventions within a professional relationship, utilizing a strengths perspective, focusing on Latinos/as, African Americans and Asian Americans.

**Corequisite(s):** SCWK 230.

**Grading:** Graded

*SCWK 221 - Transcultural Generalist Practice II*

*3 unit(s)*

Transcultural generalist practice with client systems, particularly groups, organizations and communities to enhance well-being. Approaches and skills to ameliorate conditions affecting people adversely, particularly those of diverse backgrounds and populations-at-risk. Emphasis on promoting social and economic justice.

**Prerequisite(s):** SCWK 220 and SCWK 230.

**Grading:** Graded

*SCWK 222 - Transcultural Advanced Generalist Practice I: Family Systems Focus*

*3 unit(s)*

Transcultural advanced generalist practice with an emphasis on family systems, diverse cultural patterns and varying family forms. Assessment of multi-system interactions with communities and organizations, focusing on enhancing the health and well-being of marginalized populations and populations-at-risk.

**Prerequisite(s):** SCWK 221.

**Corequisite(s):** SCWK 232.

**Grading:** Graded

*SCWK 223 - Transcultural Advanced Generalist Practice II: Community Systems Focus*

*3 unit(s)*

Methods of community intervention at multiple levels focused on empowerment and developing the strengths of

diverse groups, particularly Latino/a, African American, Asian American and other oppressed and marginalized populations. Includes community social work, assessment and interventions.

**Prerequisite(s):** SCWK 221.

**Grading:** Graded

*SCWK 224 - Advanced Generalist Practice With Spanish Speaking Populations*

*3 unit(s)*

Analysis of culturally relevant services to linguistic minority Spanish-speaking population from a transcultural generalist perspective. Skills to include Spanish language interventions appropriate for cultural access, appropriate assessment, individual, family and group interventions and advocacy for client systems at all levels.

**Prerequisite(s):** SCWK 221.

**Grading:** Graded

*SCWK 230 - Social Work Practicum I*

*1-6 unit(s)*

Development of transcultural practice skills with families, groups and individuals in their social contexts. Emphasis on developing professional roles and relationships, applying multi-system assessment and interventions, particularly with Latino/a, African American and Asian American clients/client systems.

*Course may be repeated for credit for up to 18 units.*

**Corequisite(s):** SCWK 220.

**Grading:** Credit/No Credit

*SCWK 231 - Social Work Practicum II*

*1-6 unit(s)*

Development of skills to differentially assess the strengths and capacities of interacting individuals, families, groups, organizations and communities. Application, termination and evaluation of problem-solving interventions from a transcultural generalist practice perspective.

*Course may be repeated for credit for up to 18 units.*

**Prerequisite(s):** SCWK 230.

**Corequisite(s):** SCWK 221.

**Grading:** Credit/No Credit

*SCWK 232 - Social Work Practicum III*

*1-6 unit(s)*

Development of advanced generalist practice skills with individuals, families, groups, organizations and communities from a transcultural perspective emphasizing family, community and policy practice. Development of skill to use self effectively with diverse clients, colleagues and community members from various backgrounds.

*Course may be repeated for credit for up to 18 units.*

**Prerequisite(s):** SCWK 231.

**Corequisite(s):** Advanced Courses

**Grading:** Credit/No Credit

*SCWK 233 - Social Work Practicum IV*

1-6 unit(s)

Development of advanced generalist practice skills with the aged, children and youth, health/mental health or educational settings. Developing culturally competent skills to assess, plan, implement and evaluate interventions from transcultural and strengths perspectives to address family and community well-being.

*Course may be repeated for credit for up to 18 units.*

**Prerequisite(s):** SCWK 232.

**Corequisite(s):** Advanced Courses

**Grading:** Mandatory CR/NC/RP

*SCWK 240 - Research Methods and Design*

3 unit(s)

Scientific method and problems of knowledge. Basic concepts and models of research methodology, qualitative research, program and practice evaluation in social work. Critical analysis of existing research on ethnic minorities and other populations-at-risk.

**Grading:** Graded

*SCWK 242 - Research Methods, Data Analysis and Evaluation*

3 unit(s)

Basic concepts and models for research methodology applied to the analysis of data in social work. Emphasis on quantitative analysis using microcomputers.

**Prerequisite(s):** SCWK 240.

**Grading:** Graded

*SCWK 243 - Advanced Standing SW Bridge - Grad*

2 unit(s)

Summer bridge course for the Advanced Standing Masters of Social Work Program. It is intended to supplement the foundational knowledge and skills needed for using research evidence to inform practice and policy.

**Grading:** Graded

*SCWK 245 - Management in Human Services*

3 unit(s)

The organization and continuous operation of services delivery systems including the functions of management, decision-making, communication, authority, delegation, planning and staffing.

**Grading:** Graded

**Note(s):** An elective.

*SCWK 247 - Collaborative Leadership in Social Service Contexts*

1 unit(s)

Theory and practice of cross-systems collaboration in social services, grounded in an ecological and systems perspective. Emphasizes collaborative leadership and effective interdisciplinary collaboration in addressing complex social problems.

**Prerequisite(s):** Undergraduates may enroll upon instructor approval.

**Grading:** Graded

*SCWK 250 - Policy Practice in Health and Aging*

3 unit(s)

Critical analysis of the impact of policies related to health and aging particularly those who are Latino/a, African American and Asian American. Assessment of organizations and policy implementation. Development of strategies to promote well-being and social change.

**Prerequisite(s):** SCWK 204.

**Grading:** Graded

*SCWK 251 - Social Work in Health and Aging*

3 unit(s)

Knowledge and skill development for practice from a transcultural multi-systems perspective in aging and health care settings. Emphasis on Latino, African American, Asian American, and other diverse client systems. Conceptual frameworks for practice at micro, mezzo, and macro levels.

**Prerequisite(s):** SCWK 220 and SCWK 221.

**Grading:** Graded

*SCWK 260 - Policy Practice in Child and Family Welfare*

3 unit(s)

Critical analysis of the impact of social policies on children and families, particularly those who are Latino/a, African American and Asian American. Assessment of organizational structures and policy implementation. Development of strategies to promote well-being and social change.

**Prerequisite(s):** SCWK 204.

**Grading:** Graded

*SCWK 261 - Social Work Practice with Children*

3 unit(s)

Skills and knowledge in working with high-risk children and families from an advanced generalist perspective. Focus on understanding of child and family development as well as assessment and intervention at various levels in a transcultural context.

**Grading:** Graded

**Note(s):** An elective.

*SCWK 262 - Social Work Practice with Adolescents*

3 unit(s)

Skills and knowledge in working with diverse populations of high-risk adolescents from an advanced generalist perspective. Focus on understanding adolescent and family development as well as assessments and interventions at various levels in a transcultural context.

**Grading:** Graded

**Note(s):** An elective.

*SCWK 263 - Social Work and the Law*

3 unit(s)

Analytical skills to understand the legal system, its functions, organization, jurisdiction and case processing methods. An examination of the legal environment of social work practice in selected settings: domestic violence, child abuse and neglect, sexual abuse and education.

**Grading:** Graded

**Note(s):** An elective.

*SCWK 265 - Child Welfare Practice in Public and Government Systems*

3 unit(s)

This course focuses on advanced child welfare practice relevant to public and government settings. It provides a transcultural, multi-systems approach to working with children, youth, families and communities within the child welfare system, and as they intersect with community-based organizations.

**Prerequisite(s):** SCWK 231

**Corequisite(s):** SCWK 232

**Grading:** Graded

*SCWK 267 - Advancing Child Welfare Practice Skills Through Simulation*

1 unit(s)

Advanced practice seminar that utilizes a simulation model to provide depth and breadth in knowledge and skill acquisition regarding engagement, assessment, and intervention that promote child safety and the well-being of children and families in the child welfare system.

**Prerequisite(s):** SCWK 231

**Corequisite(s):** SCWK 232

**Grading:** Credit/No Credit

*SCWK 272 - Social Work in Educational Settings*

3 unit(s)

Examines the promotion of well-being and social change, with emphasis on attainment of educational goals. Individual and family needs are explored in the context of educational policies, organizational dynamics, pupil adjustment and assessment, life cycle development, and advocacy.

**Prerequisite(s):** SCWK 212, SCWK 214, SCWK 220, SCWK 221.

**Grading:** Graded

*SCWK 280 - Policy Practice in Mental Health*

3 unit(s)

Critical analysis of the impact of mental health policies on populations-at-risk, particularly those who are Latina/o, African American, and Asian American. Assessment of organizations and policy implementation. Development of strategies to promote well-being and social change.

**Prerequisite(s):** SCWK 204.

**Grading:** Graded

*SCWK 281 - Social Work in Mental Health*

3 unit(s)

Knowledge and skill development for advanced generalist practice in mental health settings. Emphasis on Latino/a, African American and Asian American clients/client systems interacting with service delivery systems. Conceptual frameworks for practice at micro, mezzo and macro levels. Social Work program elective.

**Grading:** Graded

*SCWK 283 - Psychopharmacology for Social Workers*

3 unit(s)

Historical trends and specific cultural, ethnic, gender and age related issues of alcohol and drug use are presented. Psychotherapeutic drugs and the pharmacologic basis of medicines for psychiatric disorders and culturally competent treatment interventions for substance abuse will be discussed. Social Work program elective.

**Grading:** Graded

*SCWK 285 - Social Work and Social Problems*

3 unit(s)

Examination of selected social problems related to the direct practice of social work that focus on in-depth knowledge of the problems and of the required direct practice skills and techniques.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

**Note(s):** An elective.

*SCWK 285ITL - Social Work and Social Problems: International Experience*

3 unit(s)

Examination of selected social problems related to the direct practice of social work that focuses on in-depth knowledge of the problems and of the required direct practice skills and techniques across cultures.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*SCWK 287 - Advanced Generalist Practice in Substance Abuse*

1-3 unit(s)

An examination of clinical, policy, and practice issues regarding abuse and dependence of alcohol and other drugs. Analysis and utilization of micro, mezzo and macro considerations related to prevention, harm reduction, drug policies, and current intervention models and treatment approaches.

**Grading:** Graded

**Note(s):** An elective.

*SCWK 298A - Special Study A*

1-4 unit(s)

Planning and implementation of research emphasizing culturally appropriate measures and design strategies. First part of a two-part special project course in which students produce a professionally written project demonstrating an understanding of the knowledge base underlying social work issues and appropriate interventions.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** SCWK 242

**Grading:** Credit/No Credit

*SCWK 298B - Special Study B*

1-4 unit(s)

Planning and implementation of research emphasizing culturally appropriate measures and design strategies. Students continue their work from ScWk 298 A to produce a professionally written project demonstrating an understanding of the knowledge base underlying social work issues and appropriate interventions.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** SCWK 298A.

**Grading:** Mandatory CR/NC/RP

*SCWK 299 - Master's Thesis or Project*

1-4 unit(s)

Repeatable for a total of 4 units.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Admission to candidacy for the master's degree; approval of the college's research committee.

**Grading:** Mandatory CR/NC/RP

## The Valley Foundation School of Nursing

**Office:** Health Building 420

**Telephone:** 408-924-3131

**Email:** nursing@sjsu.edu

**Website:** www.jsu.edu/nursing

## **Professors**

Karen Bawel-Brinkley  
Daryl Canham  
Deepika Goyal  
Suzanne Malloy  
Chia-Ling Mao  
Colleen O'Leary-Kelley, Director  
Vivian Wong

## **Associate Professors**

Michelle Hampton  
Ruth Rosenblum

## **Assistant Professors**

Alice Butzlaff  
Denise Dawkins  
Nancy Dudley  
Dorothy Moore  
Lisa Rauch  
Sheri Rickman-Patrick  
Arlene Spilker  
Robin Whitney  
April Wood

# **Overview**

The Valley Foundation School of Nursing offers an innovative curriculum and varied experiential opportunities for students. The baccalaureate, master's, and doctoral degree programs in The Valley Foundation School of Nursing at San Jose State University are accredited by the Commission on Collegiate Nursing Education. These programs prepare nursing professionals to be socially and ethically responsible clinicians and scholars who are able to meet the changing healthcare needs of a diverse global community. Under faculty supervision, baccalaureate nursing students participate in clinical experiences in both hospital and community agencies. Our nurse-managed centers, located in Santa Clara and Santa Cruz counties, offer students the opportunity to provide health services and illness prevention services to populations in need. Nurses returning for their master's degree will gain additional knowledge and skills needed for either advanced practice concentration in the Nurse Educator role or the Family Nurse Practitioner role. California State University, Fresno and San Jose State University offer a joint post-master's Doctor of Nursing Practice Program. The Doctor of Nursing Practice Program prepares professional nurses to assume leadership positions in clinical, administrative, and academic settings.

Undergraduate BSN Application and Admission Procedures

## **Undergraduate**

### **Nursing, BS**

**Undergraduate Coordinator and Advisor: Dr. Sue Malloy**

Programs at SJSU prepare you for professional careers with a baccalaureate degree in Nursing.



The following courses (or their equivalents) are to be completed for the baccalaureate degree. Extended campus facilities include public health departments, home health agencies, sub-acute facilities, skilled nursing facilities, ambulatory care clinics, acute care hospitals, Nurse-Managed Centers and a wide variety of community-based agencies for clinical experience. Students must provide their own transportation to extended campus facilities. Some community agencies require home visits, therefore students must have individual use of an automobile. *In Academic Year 2020-2021, the University may have alternate course delivery systems, which will be posted on the University website (eg., COVID-19 updates).*

Overall requirements: Students must maintain a minimum grade of "C" or better or "Credit" in each nursing course and in all prerequisites and corequisite courses for the nursing major (see admission implication supplemental criteria for exceptions). In addition, students must pass background and drug clearances. Policies are posted on The Valley Foundation School of Nursing website at [www.sjsu.edu/nursing](http://www.sjsu.edu/nursing).

All students must meet all health requirements and obtain personal professional liability insurance through the School's designated vendor. Students must carry personal health insurance at all times as well. Those who do not meet the health clearance guidelines must meet with the advisor for follow-up.

Students should be aware that the application requirements and prerequisite courses are subject to change. Interested students should check the nursing web site frequently for updates and changes.

### Summary of Degree Units

University Graduation Requirements	24
Major Preparation	35
Major Requirements	61
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4.5-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses required in the major (preparation, major, and electives) require a grade of "C" or better or "Credit" (see admission implication supplemental criteria for exceptions). In addition, students must pass background and drug clearances. Policies are posted on The Valley Foundation School of Nursing website.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (24 units)

### Core Lower Division General Education (12 units)

Of the 39 units required by the university, 27 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details. Of the 39 units, the following 12 units are not satisfied in the major:

- Area A3 Critical Thinking and Writing (3 units)
- Area C Arts and Letters (9 units)

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details. Of the 9 units, the following 6 units are not satisfied in the major.

- Area R Earth and Environment (3 units)
- Area V Culture, Civilization & Global Understanding (3 units)

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

#### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education

The Physical Education requirement is waived for Nursing BS students.

## Graduation Writing Assessment Requirement

Those students starting in the Nursing BS in Fall 2020 (Writing Skills Test waived for fall 2020) must only pass NURS 100WE course. A grade of C or better (C- not accepted) is required to meet Graduation Writing Assessment Requirement (GWAR). This requirement is fulfilled in the major requirements with NURS 100WE - Evidence Based Practice Writing Workshop.

## Major Preparation (35 units)

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- COMM 20 - Public Speaking 3 *unit(s)* (A1)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2+B3)  
*BIOL 650 may also be used to meet this requirement.*
- BIOL 66 - Human Physiology 5 *unit(s)* (B2+B3)
- MICR 20 - General Bacteriology 5 *unit(s)* (B2+B3)
- NUFS 8 - Nutrition for the Health Professions 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)  
*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*

## Additional Major Support (6 units)

- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)

## Major Requirements (61 units)

### Semester 1

- NURS 10 - Leadership I 2 *unit(s)*
- NURS 11 - Introduction to Pharmacology 2 *unit(s)*
- NURS 12 - Health Assessment & Skills I 3 *unit(s)*
- NURS 13A - Gerontological Nursing Theory 2 *unit(s)*
- NURS 13B - Geriatric Nursing Practicum 1 *unit(s)*
- NURS 100WE - Evidence Based Practice Writing Workshop 3 *unit(s)* (Z)

### Semester 2

- NURS 20A - Adult Care Management I 4 *unit(s)*

- NURS 20B - Adult Care Clinical Practicum I 3 *unit(s)*
- NURS 22 - Health Assessment & Skills in Nursing II 2 *unit(s)*
- NURS 123A - Mental Health Theory 3 *unit(s)*
- NURS 123B - Mental Health Practicum 2 *unit(s)*

## Semester 3

- NURS 32 - Health Assessment & Skills III 1 *unit(s)*
- NURS 161 - Leadership II 2 *unit(s)*
- NURS 164A - Community Health Theory 3 *unit(s)*
- NURS 164B - Community Health Practicum 3 *unit(s)*
- NURS 165A - Child Health Theory 3 *unit(s)*
- NURS 165B - Child Health Practicum 2 *unit(s)*

## Semester 4

- NURS 166 - Simulation I 1 *unit(s)*
- NURS 167A - Adult Care Management II 4 *unit(s)*
- NURS 167B - Adult Care Clinical Practicum II 3 *unit(s)*
- NURS 168A - Maternal Newborn Theory 3 *unit(s)*
- NURS 168B - Maternal Newborn Practicum 2 *unit(s)*

## Semester 5

- NURS 177 - Senior Preceptorship 4 *unit(s)*
- NURS 178 - Leadership III 3 *unit(s)* (S)

## Total Units Required (120 units)

Students may complete NURS 148AI instead of NURS 177.

## Nursing, RN to BSN Concentration, BS

### Advanced Placement Coordinator and Advisor: Dr. Arlene Spilker

Admittance into this degree requires an Associate in Science degree in Nursing and passage of the NCLEX (National Council Licensure Examination) the licensing examination for nurses in the United States.

Admission occurs every Spring and Fall semester. The RN to BSN program can be completed in 3 semesters of full-time study.

### Summary of Degree Units

University Graduation Requirements	9
Community College Lower Division Coursework	70
External Exam Credit (NCLEX - RN Exam)	20
Major Requirements	21
<b>Total</b>	<b>120</b>

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (9 units)

### Core Lower Division General Education

Of the 39 units required by the university, 39 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details. Of the 9 units, the following 6 units are not satisfied in the major.

- Area R Earth and Environment (3 units)
- Area V Culture, Civilization & Global Understanding (3 units)

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Physical Education

Met as part of the community college transfer package required for admission to degree program.

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) (waived for fall 2020) and a 100W course. Exceptions to the GWAR may be found at Graduation Writing Assessment Requirement (GWAR). *A grade of C or better (C- not accepted) is required to meet graduation requirement. The requirement is fulfilled in the major requirements with NURS 100W.*

## Major Preparation (90 units)

### Community College Lower Division Coursework (70 units)

Community College lower division coursework necessary for Associate Degree in Nursing (ADN).

### External Exam Credit (20 units)

NCLEX - RN examination

*Students admitted to the program will receive 20 units of credit for passage of the National Council Licensure Examination (NCLEX) for Registered Nurses.*

## Core Courses (24 units)

### Semester 1

- NURS 100W - Writing Workshop 3 *unit(s)* (Z)
- NURS 112 - Professional Practice Success I 3 *unit(s)*
- NURS 170 - Evidence-Based Practice 2 *unit(s)*
- NURS 171 - Theoretical Foundations 2 *unit(s)*

### Semester 2

- NURS 172 - Community Health Theory 3 *unit(s)*
- NURS 173 - Community Health Practicum 2 *unit(s)*
- NURS 113 - Professional Practice Success II 2 *unit(s)*

### Semester 3

- NURS 178A - Leadership 3 *unit(s)*
- NURS 177A - Senior Preceptorship 4 *unit(s)* (S)

## Total Units Required (120 units)

Students may complete NURS 148AI instead of NURS 177A.

## Master

### Nursing, Family Nurse Practitioner Concentration, MS

A graduate of this program is prepared for advanced nursing practice with a concentration as a Family Nurse Practitioner (FNP).

## Requirements for Admission

Candidates must meet all the university admissions requirements. Students can be admitted in either classified or conditionally classified standing.

The FNP option is offered in Special Session and only if student enrollment is adequate. After earning a baccalaureate degree in Nursing from an accredited program and obtaining San José State University admission, one may enter the master's program with a major in Nursing. Graduates of non-accredited baccalaureate programs must take prior coursework that will be assessed to determine requisite content and equivalency to baccalaureate degree requirements. Programs of study for the MS degree with a major in Nursing are based on this assessment. A California RN license is required.

## Requirements for Conditionally Classified Standing

Students whose records show certain deficiencies, but whose professional achievements indicate a promise of success, may be admitted on a conditional basis. To qualify for classified standing, the conditions must be met. The appropriate form will be completed by the Nursing Program Graduate Coordinator upon receipt of documentation.

Registered nurses with baccalaureate degrees in disciplines other than nursing may be accepted conditionally such that a specialized course of study is required prior to taking Master's in Nursing courses. There are a minimum of four undergraduate courses that need to be completed with a grade of "B" or better. A California RN license is required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Classified Standing

General university requirements for admission in classified standing or for moving from conditionally classified to classified standing for the master's degree are outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy and for conversion from conditional to classified standing. Refer to the SJSU catalog section titled "Graduation Writing Assessment Requirement" for details. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the following School of Nursing requirements apply:

1. Completion of an accredited baccalaureate program in nursing with an upper-division major comparable to that offered at San José State University. Applicants who have completed other curricula or who have deficiencies will be considered individually and may be required to enroll in designated courses.
2. Applicants must present a GPA of at least 3.0 in the last 60 units of the undergraduate nursing major.
3. Completion of an introductory research course.
4. Evidence of licensure as a Registered Nurse (RN) in the State of California.
5. Completion of The Valley Foundation School of Nursing application with all attachments.
6. A statement of purpose that outlines the applicant's goals and objectives in seeking a degree.
7. Evidence of having met health requirements of the school.
8. Current certification in Cardiopulmonary Resuscitation and evidence of professional liability insurance and health insurance.
9. Evidence of knowledge and skills in the following areas: physical and psychosocial assessment skills developed to the level that the applicant can perform a complete history and physical exam on a well adult of either gender within one hour. Work completed to make up any of the above deficiencies will not be counted as part of the required units for the MS - Nursing.
10. Application for the Family Nurse Practitioner Program requires an interview.

## Requirements for Advancement to Graduate Candidacy

Advancement to candidacy for the MS - Nursing program requires that the applicant has been granted classified standing and has removed any deficiencies involved. In addition, the candidate must have:

1. Earned at least a "B" (3.0) average in a minimum of 9 letter-graded semester units of 100-level and/or 200-level coursework completed while in graduate standing at San José State University and in any coursework completed while in graduate standing at other institutions before enrollment here.
2. Classified standing.
3. Planned a proposed program of study approved by the Nursing Graduate Coordinator and approved by GAPE.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Nursing Graduation Requirements

Classified standing in Nursing or the permission of instructor is required for all nursing courses listed.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see <http://info.sjsu.edu/gcw.html>.

#### Masters Requirements (42 units)

##### Core Courses (19 units)

- NURS 200 - Population Based Health Care Systems 3 *unit(s)*
- NURS 201 - Clinical Leadership Role Development 2 *unit(s)*
- NURS 202 - Theoretical Foundations 2 *unit(s)*
- NURS 248 - Advanced Health Assessment 3 *unit(s)*
- NURS 259 - Advanced Clinical Pharmacology 3 *unit(s)*
- NURS 260 - Advanced Physiology and Pathophysiology for Advanced Practice Nursing 3 *unit(s)*
- NURS 295A - Research Methods 3 *unit(s)* (GWAR)

##### FNP Concentration (20 units)

- NURS 250 - Family Nurse Practitioner Concepts and Theory I 2 *unit(s)*
- NURS 251 - Family Nurse Practitioner (FNP) Concepts and Theory II 2 *unit(s)*
- NURS 252A - Family Nurse Practitioner (FNP) Concepts and Theory III 2 *unit(s)*
- NURS 253 - Family Nurse Practitioner Practicum I 2 *unit(s)*



- NURS 254 - Family Nurse Practitioner Practicum II *5 unit(s)*
- NURS 256 - Family Nurse Practitioner Practicum III *5 unit(s)*
- NURS 258 - Professional Issues for Nurse Practitioners *2 unit(s)*

## Culminating Experience (3 units)

### Choose Plan a or Plan B:

#### Plan A (Thesis)

- NURS 299 - Master's Thesis *1-4 unit(s)*

#### Plan B (Project)

- NURS 297 - Master's Project *1-4 unit(s)*

## Total Units Required (42 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Nursing, MS

## Graduate Options

The MS - Nursing degree has specializations\* in:

- Nurse Educator
- Family Nurse Practitioner (offered via Special Session)

\* Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.

- Post-Masters Certificate/Credential Preparation as Nurse Educator
- Nurse Educator

The School of Nursing also offers an MS in Nursing with a concentration in Family Nursing Practice. This program is described elsewhere in this catalog. Finally, SJSU offers a joint Doctorate in Nursing Practice, a mostly online program.

All options are offered only if student enrollment is adequate. Please check The Valley Foundation School of Nursing website at [www.sjsu.edu/nursing](http://www.sjsu.edu/nursing) for current information on the status of our graduate programs and courses being offered.

## Requirements for Admission

Candidates must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing.

After earning a baccalaureate degree in Nursing from an accredited program and obtaining San José State University admission, one may enter the master's program with a major in Nursing. Graduates of non-accredited baccalaureate programs must take prior coursework that will be assessed to determine requisite content and equivalency to baccalaureate degree requirements. Programs of study for the MS degree with a major in Nursing are based on this assessment. A California RN license is required.

## Requirements for Conditionally Classified Standing

Students whose records show certain deficiencies, but whose professional achievements indicate a promise of success, may be admitted on a conditional basis. To qualify for classified standing, the conditions must be met. The appropriate form will be completed by the Nursing Program Graduate Coordinator upon receipt of documentation. A California RN license is required.

Registered nurses with baccalaureate degrees in disciplines other than nursing may be accepted conditionally such that a specialized course of study is required prior to taking Master's in Nursing courses. There are a minimum of four undergraduate courses that need to be completed with a grade of "B" or better.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Admission to Classified Standing

General university requirements for consideration for admission in classified standing for the master's degree or from moving from conditionally classified to classified standing are outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy and for conversion from conditional to classified standing. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the following School of Nursing requirements apply:

1. Completion of an accredited baccalaureate program in nursing with an upper-division major comparable to that offered at San José State University. Applicants who have completed other curricula or who have deficiencies will be considered individually and may be required to enroll in designated courses.
2. Applicants must present a GPA of at least 3.0 in the last 60 units of the undergraduate nursing major.
3. Completion of an introductory research course.
4. Evidence of licensure as a Registered Nurse (RN) in the State of California.
5. Completion of The Valley Foundation School of Nursing application with all attachments.
6. A statement of purpose that outlines the applicant's goals and objectives in seeking a degree.
7. Evidence of having met health requirements of the school.
8. Current certification in Cardiopulmonary Resuscitation and evidence of professional liability insurance and health insurance.
9. Evidence of knowledge and skills in the following areas: physical and psychosocial assessment skills developed to the level that the applicant can perform a complete history and physical exam on a well adult of either gender within one hour. Work completed to make up any of the above deficiencies will not be counted as part of the required units for the MS - Nursing.

## Requirements for Admission to Graduate Candidacy

For advancement to candidacy for the MS - Nursing degree requires that the applicant has been granted classified standing and has removed any deficiencies involved. In addition, the candidate must have:

1. Earned at least a "B" (3.0) average in a minimum of nine graded semester units of 100- and/or 200-level work completed in graduate standing at San José State University and in any course work completed in graduate standing at other institutions before enrollment here.
2. classified standing.
3. Planned a proposed program of study approved by the Nursing School Graduate Coordinator and approved by GAPE.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Nursing Graduation Requirements

Classified standing in Nursing or the permission of the instructor is required for all nursing courses listed.

Students have the option to complete a post master's Nurse Educator Certificate.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

#### Master's Requirements (36 units)

##### Required Core Courses (19 units)

- NURS 200 - Population Based Health Care Systems 3 *unit(s)*
- NURS 201 - Clinical Leadership Role Development 2 *unit(s)*
- NURS 202 - Theoretical Foundations 2 *unit(s)*
- NURS 248 - Advanced Health Assessment 3 *unit(s)*
- NURS 259 - Advanced Clinical Pharmacology 3 *unit(s)*
- NURS 260 - Advanced Physiology and Pathophysiology for Advanced Practice Nursing 3 *unit(s)*
- NURS 295A - Research Methods 3 *unit(s)* (GWAR)

##### Functional Areas of Specialization (14 units)

###### Nurse Educator

- EDUC 186 - Using Instructional Media 3 *unit(s)*

- NURS 212 - Curriculum Development in Nursing 3 *unit(s)*
- NURS 214 - Nurse Educator Theory & Practicum I 4 *unit(s)*
- NURS 216 - Nurse Educator Theory and Practicum II 4 *unit(s)*

## Culminating Experience (3 units)

Complete one course from:

- NURS 297 - Master's Project 1-4 *unit(s)*
- NURS 299 - Master's Thesis 1-4 *unit(s)*

## Total Units Required (36 units)

Elective courses, if applicable, are to be taken outside The Valley Foundation School of Nursing. The content of these units is to support the chosen functional option. At least one of the courses must be at the 200-level of course work. FNP students do not have elective course requirements.

# Doctoral

## Nursing Practice, DNP

The Doctor of Nursing Practice (DNP) is a practice degree program designed to prepare nurses at a doctoral level to lead health care change, serve as nursing faculty, and advance healthcare throughout central and northern California communities. The DNP program prepares nurse leaders and advanced practice nurses for evidence-based practice in patient care, leadership, and educational roles. Graduates are also prepared to serve as clinical faculty in postsecondary nursing education programs. The curriculum is based on the American Association of Colleges of Nursing's The Essentials of Doctoral Education for Advanced Nursing Practice (2006) and meets all requirements for national accreditation.

Designed for working professionals, coursework is offered primarily in an online format with intensive sessions held on-site at the San José State University campus at the beginning of each semester. Our graduates will serve as stewards of the nursing discipline and work collaboratively with other disciplines to improve the health and health care systems of our community.

See the SJSU The Valley Foundation School of Nursing website for more information: [www.sjsu.edu/nursing](http://www.sjsu.edu/nursing).

# Admission Requirements

Prior to applying to the University, students should refer to The Valley Foundation School of Nursing website for information regarding advisement for entry into the DNP degree program. The DNP is a five semester, 39-unit program that can be completed in 23 months of full-time study. It follows the cohort model, and there is no part-time option. It requires 1,000 hours of post-baccalaureate clinical practice. Applications open in the fall for admission in the following Fall semester.

The Valley Foundation School of Nursing uses the Nursing CAS for submission of applications to the Doctor of Nursing Practice program.

1. MSN from an accredited institution or a master's degree in a health-related field with additional post-baccalaureate courses in nursing theories, research methods, transcultural nursing and informatics.

2. Overall GPA of 3.0 or better.
3. Current, unrestricted California RN license.
4. National Certification in a nursing area or specialty.
5. Preparation and experience as an APN, administrator, or educator.

In addition, applicants must apply separately for admission to the University and the department.

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the DNP degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

Applicants to the DNP program may be fully admitted in Classified status if they meet the admissions requirements for the University and the department. The minimum requirements for admission to the program are as follows:

1. MSN from an accredited institution or a master's degree in a health-related field with additional post-baccalaureate courses in nursing theories, research methods, transcultural nursing and informatics.
2. Overall GPA of 3.0 or better.
3. Current, unrestricted California RN license.
4. National Certification in a nursing area or specialty.
5. Preparation and experience as an APN, administrator, or educator.

All prospective students must also submit the following application materials, first to the Nursing CAS initially, and then to Cal State Apply:

1. California RN License. Applicant must upload a copy (front and back) of a current and unrestricted RN license. Upload under "License".
2. Personal Statement. Upload a personal statement outlining your goals as a Doctor of Nursing Practice. Include your intended topic or area of interest for your doctoral project (evidence-based practice, quality improvement, program evaluation) and goals for improved practice. Statements should be typed, in Times New Roman font, double-spaced, and no longer than two pages. Upload under "Personal Statement".
3. CV/Resume. Upload a copy of your current CV or resume. Upload under "CV/Resume".
4. United States Veterans. If you are a U.S. Veteran please upload documentation. One seat is available each semester for veterans meeting application criteria. Upload under "Military Papers".
5. National Certification (if applicable). National certification in a specialty field is a requirement for graduation but NOT for admission. However, if you are currently nationally certified, upload a copy under "Certification".
6. Writing Sample. Upload an example of a scholarly paper you wrote in a prior course of study or a published manuscript. The example should include citations of scholarly research and proper use of a reference and citation format, grammar, punctuation, and style.
7. Verification of Master's program clinical hours. Upload a letter from the university's program director or registrar that verifies the number of clinical hours that were completed within the Master's program. Upload the letter under "Other".

## Conditionally Classified Standing

Applicants may be conditionally admitted (admitted with conditions) if they meet the admission requirements for the Graduate Division but do not fully meet departmental admissions requirements. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Candidacy

Candidacy denotes that a student is fully qualified to complete the final stages of the Master of Arts degree. Matriculated graduate students must submit a Petition for Advancement to Graduate Candidacy a minimum of one semester prior to graduating. General university requirements for advancement to candidacy are detailed in the Graduate Policies and Procedures section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). Successful completion of NURS 597 including passing the final written paper in this course with a grade of "B" or better, fulfills the GWAR in this program.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Completion of the degree also requires a minimum overall GPA of 3.0.

### Practicum Requirement

Practice Experiences in the Curriculum (AACN Essentials, 2006). DNP programs provide rich and varied opportunities for practice experiences aimed at helping graduates achieve the essential and specialty competencies upon completion of the program. In order to achieve the DNP competencies, programs provide a minimum of 1,000 hours of practice post-baccalaureate as part of a supervised academic program. Practice experiences are designed to help students achieve specific learning outcomes related to the DNP Essentials and specialty competencies. These experiences are designed to provide systematic opportunities for feedback and reflection. Experiences include in-depth work with experts from nursing as well as other disciplines and provide opportunities for meaningful student engagement within practice environments. Given the intense practice focus of DNP programs, practice experiences are designed to help students build and assimilate knowledge for advanced specialty practice at a high level of complexity. Therefore, end-of-program practice immersion experiences should be required to provide an opportunity for further synthesis and expansion of the learning developed to that point. These experiences also provide the context within which the final DNP product is completed.

Practice immersion experiences afford the opportunity to integrate and synthesize the essentials and special requirements necessary to demonstrate competency in an area of specialized nursing practice. Proficiency may be acquired through a variety of methods, including attaining case requirements, patient or practice contact hours, completing specified procedures, demonstrating experiential competencies, or a combination of these elements. Students who do not have 1,000 hours of eligible post-baccalaureate practice experience complete this requirement through the NURS 580 - DNP Practicum. Units are contingent on hours required. Note that all students are required to perform 270 hours (one semester) of practice experience during the DNP program. These hours are performed in conjunction with the doctoral project.

# Culminating Experience

## Plan B (Project)

All students must complete a doctoral project prior to the conferral of the doctoral degree. The doctoral project requires enrollment in the NURS 595, NURS 596, and NURS 597 over consecutive semesters. Each student must form a Doctoral Project Committee comprised of three faculty/clinical professionals. The project committee chair shall be a tenured or tenure-track nursing program faculty member. Qualified individuals whose expertise is germane to the topic may be members of the Doctoral Project Committee pending approval of the committee chair and the student's program advisor. All students are required to perform 270 hours (one semester) of practice experience in conjunction with the doctoral project.

The doctoral project shall be the written product of systematic, rigorous research related to advanced practice and focused on a potential or existing health problem or issue affecting a group or community, rather than an individual. The doctoral project will conform to the following criteria: It shall identify the research problem and question(s), state the major theoretical perspectives, explain the significance of the undertaking, relate it to relevant, scholarly and professional literature, set forth the appropriate sources for and methods of gathering and analyzing the data, and offer a conclusion or recommendation. Students must conduct the project according to ethical principles and present it in an oral defense to the project committee in a public forum. They must also submit one or more manuscripts of the project to an appropriate peer-reviewed journal to complete the program culminating experience.

## Doctorate Requirements (39 units)

### Core Courses (27 units)

- NURS 574 - The Role of Diversity and Social Issues in Healthcare 2 *unit(s)*
- NURS 575 - Application of Theories in Advanced Nursing Practice 2 *unit(s)*
- NURS 576 - Application of Biostatistics to Population 3 *unit(s)*
- NURS 583 - Leadership and Professional Responsibility in Complex Healthcare Systems 2 *unit(s)*
- NURS 584 - Technology, Informatics, and Data Management in the Transformation of Healthcare 2 *unit(s)*
- NURS 585 - Foundations of Evidence-Based Practice 3 *unit(s)* (GWAR)
- NURS 586 - Transformation of Health Care Systems: Health Policy and Economics 2 *unit(s)*
- NURS 587 - Principles of Epidemiology 3 *unit(s)*
- NURS 591 - Curriculum Development 3 *unit(s)*
- NURS 592 - Evaluation in Nursing Education 3 *unit(s)*
- NURS 593 - Financial Aspects of Projects and Practice 2 *unit(s)*

### Practicum (6 units)

1,000 hours total, can count prior field work hours. Students may have to take additional course units to make up total hours required.

- NURS 580 - DNP Practicum 6 *unit(s)* (3 times for a total of 24 units)

### Culminating Experience (6 units)

- NURS 595 - Translating Evidence into Reflective Practice I 2 *unit(s)*
- NURS 596 - Translating Evidence into Reflective Practice II 2 *unit(s)*

- NURS 597 - Translating Evidence into Reflective Practice III Doctoral Project 2 *unit(s)*
- Oral Defense
- Journal Article Submission

## Optional Elective (0-2 units)

Optional 2-unit course recommended for students interested in pursuing educational roles

- NURS 594 - Application of Evidence-Based Teaching in Nursing 2 *unit(s)*

## Total Units Required (39 units)

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Nurse Educator Post-Masters Certificate

#### Certificate Requirements (16 units)

- EDUC 186 - Using Instructional Media 3 *unit(s)*
- NURS 212 - Curriculum Development in Nursing 3 *unit(s)*
- NURS 214 - Nurse Educator Theory & Practicum I 4 *unit(s)*
- NURS 216 - Nurse Educator Theory and Practicum II 4 *unit(s)*

#### Total Units Required (16 units)

*NURS 10 - Leadership I*

2 *unit(s)*

(Formerly NURS 33 and 34) An overview of professional nursing role and scope of practice. Includes: nursing core values, professional role, nursing process, systems theory, code of ethics, Nurse Practice Act, conflict resolution, communication, the transformative process from novice to expert, and self-care strategies.

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

**Corequisite(s):** NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 100WE, completion of core GE.

**Grading:** Graded

*NURS 11 - Introduction to Pharmacology*

2 *unit(s)*

(Formerly NURS 43) An introduction to major medication classifications. Emphasizes the nurse's role in medication administration including assessments, interventions, and expected outcomes of commonly used medications.



**Prerequisite(s):** Completion of Core General Education, and passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted).

**Grading:** Graded

*NURS 12 - Health Assessment & Skills I*

3 unit(s)

(Formerly NURS 53) Foundational nursing skills including health assessment, nursing process, communication, psychomotor skills and critical thinking in the context of diverse client populations. Person-centered care and safety are emphasized through the use of simulation.

Lecture 1 hours/Lab 6 hours.

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

**Corequisite(s):** NURS 10, NURS 11, NURS 13A, NURS 13B, NURS 100WE; completion of core GE.

**Grading:** Graded

*NURS 13A - Gerontological Nursing Theory*

2 unit(s)

Introduction to gerontological nursing, including developmental stages and transitions of aging, expected age-related physiological and psychological changes and assessment findings, promotion of health for the older adult client, resources available to seniors, and end of life issues. Nursing majors only.

**Grading:** Graded

*NURS 13B - Geriatric Nursing Practicum*

1 unit(s)

Provide supervised nursing care to geriatric clients in a variety of healthcare settings. Focus on applying professional fundamental nursing skills including therapeutic communications, nursing assessment and health promotion.

**Grading:** Credit/No Credit

*NURS 20A - Adult Care Management I*

4 unit(s)

(Formerly NURS 24) Concepts related to care of the adult with selected medical-surgical conditions. Emphasis is on the nursing process and developing competence in providing and coordination nursing care.

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 100WE.

**Corequisite(s):** NURS 20B.

**Grading:** Graded

*NURS 20B - Adult Care Clinical Practicum I*

3 unit(s)

(Formerly NURS 44) Provides supervised nursing care to hospitalized adults and their families. Emphasizes systematic assessment, nursing process, and clinical reasoning. Builds competency in selected nursing therapies, and developing in the role of professional nurse.

*Lab 12 hours.*

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 100WE.

**Corequisite(s):** NURS 20A.

**Grading:** Credit / No Credit

*NURS 22 - Health Assessment & Skills in Nursing II*

*2 unit(s)*

(Formerly NURS 54) Integration of clinical reasoning and client context in performing complex nursing therapies and psychomotor skills. Person-centered care and patient safety are emphasized through the use of simulation.

*Lecture 1 hour/lab 3 hours.*

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 100WE.

**Grading:** Graded

*NURS 23 - Pathophysiology - Theory I (Not Offered - See Revised Nursing BS)*

*3 unit(s)*

Introduction to biologic basis for health problems in children and adults. Focuses on the pathophysiology of a variety of disease processes using systems theory as an organizing framework.

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95 with a C or better.

**Corequisite(s):** NURS 33, NURS 43, NURS 53; completion of core GE.

**Grading:** Graded

*NURS 24 - Adult Care Management I (Offered Only in Fall 20 - New Students: See Revised Nursing BS)*

*4 unit(s)*

Covers the knowledge, skills, and attitudes required to provide safe nursing care to adults / older adults. A systems approach integrates concepts of health promotion, disease prevention, and evidence-based interventions related to actual/potential alterations in: oxygenation, circulation, metabolism, and elimination.

**Prerequisite(s):** NURS 23, NURS 33, NURS 43, NURS 53

**Grading:** Graded

*NURS 32 - Health Assessment & Skills III*

*1 unit(s)*

Focuses on the childrearing and childbearing population with integration of clinical reasoning (nursing process) during health assessments and psychomotor skills to provide safe client care in a variety of settings.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*NURS 33 - Professional Role Development I (Not Offered - See Revised Nursing BS)*

2 unit(s)

An overview of the professional nursing role. Includes: nursing, core values, roles of professional nurse, the nursing process, code of ethics, legal issues, Nurse Practice Act, and interpersonal communication skills in preparation for clinical practice.

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

**Corequisite(s):** NURS 23, NURS 43, NURS 53; completion of core GE.

**Grading:** Graded

*NURS 34A - Professional Role Development II (Offered Only in Fall 20 - New Students: See Revised Nursing BS)*

1 unit(s)

Focus is on the role of the professional nurse in providing patient-centered care, applying principles of the nursing process, professional communication, evidence-based practice and quality improvement in acute care setting.

**Prerequisite(s):** Completion of NURS 23, NURS 33, NURS 43, NURS 53.

**Corequisite(s):** NURS 44

**Grading:** Graded

*NURS 43 - Pharmacology (Not Offered - See Revised Nursing BS)*

3 unit(s)

Focuses on drug prototypes from major drug categories. Emphasizes the pharmacodynamics, calculations, nursing assessments and interventions of drugs commonly prescribed.

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

**Corequisite(s):** NURS 23, NURS 33, NURS 53; completion of core GE.

**Grading:** Graded

*NURS 44 - Adult Care Clinical Practicum I (Offered Only in Fall 20 - New Students: See Revised Nursing BS)*

3 unit(s)

Focus is on applying the nursing process to provide safe, client-centered nursing care to acute and chronically ill adults and older adults in the acute care setting.

**Prerequisite(s):** NURS 23, NURS 33, NURS 43, NURS 53.

**Grading:** Credit/No Credit

*NURS 53 - Skills in Nursing I (Not Offered - See Revised Nursing BS)*

3 unit(s)

A beginning simulation course for the learning and practice of psychomotor and cognitive skills used to provide direct care in the acute care setting. Includes: hygiene, safety, mobility, asepsis, medication administration, health assessment, interpersonal relationship skills.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** Admission to nursing program. BIOL 65, BIOL 66, CHEM 30A, MICR 20, ENGL 1A, COMM 20, STAT 95, (all with grades of "C" or better).

**Corequisite(s):** NURS 23, NURS 33, NURS 43; completion of core GE.

**Grading:** Graded

*NURS 54 - Skills in Nursing II (Offered Only in Fall 20 - New Students: See Revised Nursing BS)*

2 unit(s)

A simulation course for the learning and practice of advanced psychomotor and cognitive skills used to provide direct care in the acute care setting. Skills include: IV therapy, venipuncture, trach care, wound care, NG tubes, blood transfusions, and postmortem care.

*Misc/Lab: Lecture 3 hours/Lab 2 hours*

**Prerequisite(s):** Completion of NURS 23, NURS 33, NURS 43, NURS 53.

**Corequisite(s):** NURS 24 and NURS 034.

**Grading:** Graded

*NURS 100W - Writing Workshop*

3 unit(s)

Development of skills in scientific and technical writing. How to write a critical review of published writing, a business letter, a scholarly paper, and give an oral presentation.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*NURS 100WE - Evidence Based Practice Writing Workshop*

3 unit(s)

Examines the systematic inquiry of basic research concepts and processes. Evidence-based practice (EBP) results from the appraisal of the best scientific evidence available to guide clinical decision-making and thus to achieve quality patient outcomes. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Nursing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*NURS 108 - Special Topics in Nursing*

3 unit(s)

Significant nursing topics, issues, or themes. Consult Schedule of Classes and/or School of Nursing for focus which varies each semester.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*NURS 110ITL - Global Influences on Health*

3 unit(s)

Examination of major issues influencing health and human services and their delivery on a global scale. The health care needs of a diverse and multicultural population, health care disparities, and strategies to address global health needs are explored. Includes special populations service provision, advocacy, patient/client centered care, psychosocial aspects of disease and wellness, health promotion and education, quality, cost controls, and multidisciplinary team approaches to service delivery.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Grading:** Graded

*NURS 111 - Medical Ethics*

3 unit(s)

Selected ethical problems in health care practices. For example, abortion, patient rights, national health care, euthanasia and genetic engineering, with emphasis on philosophical methods.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*NURS 112 - Professional Practice Success I*

3 unit(s)

First course in a two course sequence focusing on the application of nursing concepts that are essential to successful professional nursing practice: improving clinical reasoning, linking theory to practice, and implementing a plan of self-care for maintaining longevity in the profession.

**Prerequisite(s):** Admission to the Bridge Nursing Program.

**Grading:** Graded

*NURS 113 - Professional Practice Success II*

2 unit(s)

Second course in a two course sequence focusing on the application of nursing concepts essential to successful professional nursing practice: improving clinical reasoning, developing a systems viewpoint, and implementing change in the current healthcare setting.

**Prerequisite(s):** NURS 112, NURS 170, and NURS 171.

**Corequisite(s):** NURS 172 and NURS 173.

**Grading:** Graded

*NURS 123A - Mental Health Theory*

3 unit(s)

(Formerly NURS 127A) Psychiatric-mental health theoretical nursing concepts for culturally diverse clients. Emphasis on therapeutic communication, health promotion and prevention, advocacy and ethical issues for individuals and families with complex health problems.

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 100WE.

**Corequisite(s):** NURS 20A, NURS 20B, NURS 22, NURS 123B.

**Grading:** Graded

*NURS 123B - Mental Health Practicum*

2 unit(s)

(Formerly 147A) Provides supervised nursing care to diverse individuals with mental health conditions in a variety of settings. Emphasis on therapeutic communications and symptom management, screening interventions, health promotion, and interdisciplinary care coordination.

Lab 6 hours.

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 100WE.

**Corequisite(s):** NURS 20A, NURS 20B, NURS 22, NURS 123A.

**Grading:** Credit / No Credit

*NURS 124 - Nursing Theory II*

3 unit(s)

An RN Bridge course teaching the theoretical basis for health and illness management of culturally diverse individuals, families, and groups. Concepts include professionalism, health promotion, nursing theories, quality measurement, and clinical judgment. The delivery is in person and online.

**Prerequisite(s):** Acceptance into RN to BSN Bridge Program

**Corequisite(s):** NURS 144.

**Grading:** Graded

*NURS 125 - Adult Care Management II*

4 unit(s)

Focus is on concepts and care related to adult medical-surgical clients in the acute care setting. Systems approach integrates human response to alterations in physiological functioning related to disorders of the musculoskeletal, neurological, gastrointestinal, integumentary, endocrine systems and oncologic disorders.

**Prerequisite(s):** PH 100W, NURS 126A, NURS 126B, NURS 136, NURS 146A, NURS 146B

**Grading:** Graded

*NURS 126A - Pediatric Health Theory*

2 unit(s)

Focus is on direct health care of children in various health care settings. Exploration of biopsychosocial processes involved in health, life transitions, and illness with identification of related preventative and therapeutic nursing behaviors

**Prerequisite(s):** NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

**Grading:** Graded

*NURS 126B - Maternal / Newborn Health Theory*

2 unit(s)

Focus is on direct health care of the childbearing family in various health care settings. Exploration of biopsychosocial processes involved in health, life transitions, and illness with identification of related preventative and therapeutic

nursing behaviors.

**Prerequisite(s):** NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

**Grading:** Graded

*NURS 127A - Psychiatric / Mental Health Theory*

2 unit(s)

Concepts for nursing in psychiatric-mental health settings with clients from culturally diverse backgrounds. Systems approach integrates psychiatric/mental health nursing care for individuals, families and communities with complex health problems.

**Prerequisite(s):** NURS 125, NURS 133, NURS 145.

**Grading:** Graded

*NURS 127B - Community Theory*

2 unit(s)

Utilizes a systems approach to integrate the study of community and public health nursing care for culturally diverse individuals, families, and communities with complex health problems, and promotion of health and wellness across the lifespan.

**Prerequisite(s):** NURS 125, NURS 133, NURS 145 or NURS 124, NURS 144.

**Grading:** Graded

*NURS 128 - Evidence-Based Nursing Practice (Offered Only in Fall 20 - New Students: See Revised Nursing BS)*

2 unit(s)

Focus is on research methodology and terminology related to nursing process and evidence based nursing practice.

**Prerequisite(s):** NURS 23, NURS 33, NURS 43, NURS 53.

**Grading:** Graded

*NURS 133 - Professional Role Development IV*

2 unit(s)

Focus is on the role of the professional nurse in providing patient-centered care, applying principles of the nursing process, professional communication, evidence-based practice and quality improvement in the acute care setting.

**Prerequisite(s):** NURS 126, NURS 136, NURS 146A, NURS 146B.

**Grading:** Graded

*NURS 135 - Health Issues in a Multicultural Society*

3 unit(s)

Multidisciplinary interpretation and evaluation of consumer health issues. Impact of cultural variables (including communication methods, socioeconomic status and traditional beliefs) on health and illness. Interaction of individuals in families and other groups.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not

accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*NURS 136 - Professional Role Development III*

2 unit(s)

Expansion of the professional role in the childbearing-childrearing setting to include further application of: evidence-based practice, therapeutic communication, developmentally appropriate teaching/learning strategies, informatics, health literacy, developmental and cultural assessment, leadership and ethical principles, grief and loss.

**Prerequisite(s):** NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

**Grading:** Graded

*NURS 137 - Professional Role Development V*

2 unit(s)

Using a collaborative learning environment, students acquire professional role competencies for community health and psychiatric/mental health nursing practice.

**Prerequisite(s):** NURS 125, NURS 133, NURS 145.

**Grading:** Graded

*NURS 138 - Professional Role Development VI*

3 unit(s)

Focus is on demonstration of the professional nurse role. Includes integration of theoretical concepts and clinical practice skilled know-how into the practice setting. Encompasses models and theories of nursing management and leadership, communication, economics, quality improvement, ethics, and safety.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** NURS 127A, NURS 127B, NURS 137, NURS 147A, NURS 147B or NURS 139.

**Grading:** Graded

*NURS 138X - Professional Role Development VI*

2 unit(s)

Focus is on demonstration of the professional nurse role. Includes integration of theoretical concepts and clinical practice skilled know-how into the practice setting. Encompasses models and theories of nursing management and leadership, communication, economics, quality improvement, ethics, and safety.

**Prerequisite(s):** Successful completion of NURS 127A, NURS 127B, NURS 137, NURS 147A, NURS 147B or NURS 139.

**Grading:** Graded

*NURS 139 - Professional Role Development for Nurses*

3 unit(s)

Students use a systems approach to acquire professional role competencies required in a variety of healthcare



settings (community health, acute care) in a collaborative learning environment. Focus is on nursing management and integration of nursing role concepts into professional practice.

**Prerequisite(s):** NURS 124, NURS 144.

**Corequisite(s):** NURS 127B, NURS 147B.

**Grading:** Graded

*NURS 144 - Clinical Nursing Applications*

2 unit(s)

Implements concepts and activities using a variety of health care settings. Focus on health promotion, chronic illness and leadership/management.

**Prerequisite(s):** California RN License.

**Pre/Corequisite(s):** NURS 124 and NURS 134.

**Grading:** Graded

*NURS 145 - Adult Care Clinical Practicum II*

4 unit(s)

Focus is on applying the knowledge, skills, and attitudes required to provide safe, client-centered care to acute and chronically ill adults and older adults in a variety of settings.

**Prerequisite(s):** NURS 126A, NURS 126B, NURS 136, NURS 146A, NURS 146B

**Grading:** Credit/No Credit

*NURS 146A - Pediatric Clinical*

2 unit(s)

Focuses on providing family centered care to culturally diverse childrearing families and children using concepts of systems theory in acute care, home, and community settings.

**Prerequisite(s):** NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

**Grading:** Credit/No Credit

*NURS 146B - Maternal Health Clinical*

2 unit(s)

Focuses on providing family centered care to culturally diverse childbearing families using concepts of systems theory in acute care, home, and community settings.

**Prerequisite(s):** NURS 24, NURS 34, NURS 44, NURS 54, NURS 128.

**Grading:** Credit/No Credit

*NURS 147A - Psychiatric/Mental Health Clinical*

2 unit(s)

Supervised participation in nursing and healthcare of clients with psychiatric-mental health problems in varied settings. Concepts include a systems approach to therapeutic communication and relationships, evidence-based care, symptom management, teaching/learning, leadership, and collaboration with other health care workers.

**Prerequisite(s):** NURS 125, NURS 133, NURS 145.

**Grading:** Credit/No Credit

*NURS 147B - Community Health Clinical*

3 unit(s)

Applies nursing process to care of clients from diverse populations in the community in a variety of settings. Utilizes a systems approach to promoting health and wellness for individuals and groups across the lifespan.

**Prerequisite(s):** NURS 125, NURS 133, NURS 145.

**Grading:** Credit/No Credit

*NURS 147BI - Community Health Clinical -- International Experience*

3 unit(s)

Applies nursing process to care of clients from diverse populations in a variety of international settings. A systems approach to caring for individuals and groups across the life span with community health care needs.

**Prerequisite(s):** Completion of NURS 125, NURS 133, NURS 145

**Corequisite(s):** NURS 127B, NURS 137

**Grading:** Credit/No Credit

*NURS 148 - Nursing Practicum V*

3 unit(s)

Using a systems approach, applies professional practices in a variety of health care settings. This is a preceptored experience.

**Prerequisite(s):** Completion of Semester 7 and successful completion of NURS 101B or Licensure as a Registered Nurse.

**Corequisite(s):** NURS 128 and NURS 138.

**Grading:** Credit/No Credit

*NURS 148A - Senior Preceptorship*

4 unit(s)

Independent, precepted experience in a clinical setting. Uses a systems approach integrating knowledge of research, leadership, pathophysiology, and nursing into practice.

**Prerequisite(s):** NURS 127A, NURS 127B, NURS 137 or NURS 139, NURS 147A, NURS 147B.

**Corequisite(s):** NURS 138

**Grading:** Credit/No Credit

*NURS 148AI - Senior Practicum-- International Experience*

4 unit(s)

Use a systems approach to research, leadership management, theory and beginning clinical proficiency, in collaboration with other health care members in an international setting.

**Prerequisite(s):** Completion of Nursing Semester 5

**Corequisite(s):** NURS 138

**Grading:** Credit/No Credit

*NURS 155 - Skills in Nursing III*

2 unit(s)

Simulation course for the practice of advanced, specialized psychomotor and cognitive skills used to provide direct care.

*Misc/Lab: Lecture 3 hours/Lab 2 hours*

**Prerequisite(s):** Completion of Semester 4.

**Corequisite(s):** NURS 125, NURS 133 and NURS 145.

**Grading:** Graded

*NURS 161 - Leadership II*

2 unit(s)

(Formerly NURS 133 Professional Role Development) Safe practice of professional nursing, including interdisciplinary communication, bioethical and legal concerns, cost of care, end-of-life care, and health literacy and disparities for culturally diverse clients.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** NURS 20A, NURS 20B, NURS 22, NURS 123A, NURS 123B.

**Grading:** Graded

*NURS 164A - Community Health Theory*

3 unit(s)

(Formerly NURS 127B) Community health concepts and the care of the population, families, and individuals with complex health problems using health promotion and wellness strategies across the life span. Emphasis on core public health competencies and the influence of health policy on the populations' health.

**Grading:** Graded

*NURS 164B - Community Health Practicum*

3 unit(s)

(Formerly NURS 147B) Provides supervised nursing care to culturally diverse child-rearing families and children using concepts of systems theory in acute care, home and community settings.

*Lab 9 hours.*

**Prerequisite(s):** Completion of semester 2 courses.

**Grading:** Credit / No Credit

*NURS 165A - Child Health Theory*

3 unit(s)

(Formerly NURS 126A) Direct health care of children and the childrearing family in various health care settings. Exploration of bio-psychosocial processes involved in health, life transitions, and illness with identification of related preventive and therapeutic nursing behaviors.

**Prerequisite(s):** NURS 20A, NURS 20B, NURS 22, NURS 123A, and NURS 123B.

**Corequisite(s):** NURS 164A.

**Grading:** Graded

*NURS 165B - Child Health Practicum*

*2 unit(s)*

(Formerly NURS 146A) Provides supervised nursing care to culturally diverse child-rearing families and children using concepts of systems theory in acute care, home and community settings.

*Lab 6 hours.*

**Prerequisite(s):** NURS 10, NURS 11, NURS 12, NURS 13A, NURS 13B, NURS 20A, NURS 20B, NURS 22, NURS 102, NURS 123A, NURS 123B.

**Grading:** Graded

*NURS 166 - Simulation I*

*1 unit(s)*

Provides objective-driven learning activities using a variety of simulation modalities. Faculty-guided simulations provide opportunities for developing problem identification and clinical reasoning skills across the lifespan. Reflective thinking is incorporated into all simulated experiences.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*NURS 167A - Adult Care Management II*

*4 unit(s)*

(Formerly NURS 125) Concepts and care related to adult medical-surgical clients in the acute care setting. Systems approach integrates human responses to alterations in physiological functioning related to disorders of the musculoskeletal, neurological, gastrointestinal, integumentary, endocrine systems and oncologic disorders.

**Prerequisite(s):** NURS 32, NURS 164A, NURS 164B, NURS 165A, NURS 165B.

**Corequisite(s):** NURS 167B.

**Grading:** Graded

*NURS 167B - Adult Care Clinical Practicum II*

*3 unit(s)*

(Formerly NURS 145) Provides an advanced level of supervised nursing care to hospitalized adults and their families. Emphasizes systematic assessment, nursing process, and clinical reasoning. Promotes development of competency in professional registered nurse role and application of clinical judgment.

*Lab 9 hours.*

**Prerequisite(s):** NURS 32, NURS 164A, NURS 164B, NURS 165A, NURS 165B.

**Corequisite(s):** NURS 167A.

**Grading:** Credit / No Credit

*NURS 168A - Maternal Newborn Theory*

3 unit(s)

(Formerly NURS 126B) Direct health care of newborns and the childbearing family in various health care settings. Exploration of bio-psychosocial processes involved in health, life transitions, and illness with identification of related preventive and therapeutic nursing behaviors.

**Prerequisite(s):** NURS 32, NURS 164A, NURS 164B, NURS 165A, PH 165B.

**Corequisite(s):** NURS 168B.

**Grading:** Graded

*NURS 168B - Maternal Newborn Practicum*

2 unit(s)

(Formerly NURS 146B) Practicum to provide family-centered care to culturally diverse childbearing families using concepts of systems theory in acute care, home and community settings.

*Lab 6 hours.*

**Prerequisite(s):** NURS 32, NURS 164A, NURS 164B, NURS 165A, NURS 165B.

**Grading:** Credit / No Credit

*NURS 170 - Evidence-Based Practice*

2 unit(s)

(Formerly NURS 128) Research methodology and terminology related to nursing process and evidence based nursing practice.

**Prerequisite(s):** Admission to the RN to BSN Nursing Program.

**Grading:** Graded

*NURS 171 - Theoretical Foundations*

2 unit(s)

(Formerly NURS 124) Theoretical bases for health and illness management of culturally diverse individuals, families, and groups. Concepts include nursing and change theories, quality measurement, patient safety, clinical reasoning and judgment, health promotion, and health literacy.

**Prerequisite(s):** Acceptance into RN to BSN Bridge Program.

**Grading:** Graded

*NURS 172 - Community Health Theory*

3 unit(s)

(Formerly NURS 127B) Community health concepts and the care of the population, families, and individuals with complex health problems using health promotion and wellness strategies across the life span. Emphasis on core public health competencies and the influence of health policy on the populations' health.

**Prerequisite(s):** NURS 112, NURS 170, and NURS 171 or NURS 100W.

**Grading:** Graded

*NURS 173 - Community Health Practicum*

2 unit(s)

(Formerly NURS 147B) Utilizes a systems approach to promoting health and wellness for individuals and groups across the lifespan. Applies nursing process to care of clients from diverse populations in the community in a variety of settings.

Lab 6 hours.

**Prerequisite(s):** NURS 100W, NURS 112, NURS 170 and NURS 171.

**Corequisite(s):** NURS 113 and NURS 172.

**Grading:** Credit / No Credit

*NURS 177 - Senior Preceptorship*

4 unit(s)

Independent, precepted experience in a clinical setting. Uses a systems approach integrating knowledge of research, leadership, pathophysiology, and nursing into practice.

Lab 12 hours.

**Prerequisite(s):** All required NURS courses. Course is to be taken in the last semester of the Nursing (Prelicensure) program.

**Corequisite(s):** NURS 178.

**Grading:** Credit / No Credit

*NURS 177A - Senior Preceptorship*

4 unit(s)

(Formerly NURS 148A) Independent, precepted experience in a clinical setting. Uses a systems approach integrating knowledge of research, leadership, pathophysiology, and nursing into practice.

Lab 12 hours.

**Prerequisite(s):** NURS 100W, NURS 112, NURS 113, NURS 170, NURS 171, NURS 172, and NURS 173. This course should be taken in the 3rd semester of the Nursing (RN to BSN) program.

**Corequisite(s):** NURS 178A.

**Grading:** Credit / No Credit

*NURS 178 - Leadership III*

3 unit(s)

(Formerly NURS 138) Demonstration of the professional nurse role. Includes integration of theoretical concepts in the practice setting. Encompasses models and theories of nursing management and leadership, teamwork, communication, cultural competence, economics, health disparities, quality improvement, ethics, patient safety, career development.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Successful completion of NURS 10, NURS 11, NURS 12, NURS 13, NURS 14, NURS 20, NURS 21, NURS 22, NURS 23, NURS 102, NURS 123, NURS 129, NURS 102, NURS 161, NURS 164A, NURS 164B, NURS 165A, NURS 165B, NURS 166, NURS 167A, NURS 167B, NURS 168A, and NURS 168B. This course should be taken in the 8th semester of the Nursing (Prelicensure) program.

**Corequisite(s):** NURS 177.

**Grading:** Graded

*NURS 178A - Leadership*

3 unit(s)

(Formerly NURS 138) Demonstration of the professional nurse role. Includes integration of theoretical concepts in the practice setting. Encompasses models and theories of nursing management and leadership, teamwork, communication, cultural competence, economics, health disparities, quality improvement, ethics, patient safety, career development.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Successful completion of NURS 100W, NURS 112, NURS 113, NURS 170, NURS 171, NURS 172, and NURS 173. This course should be taken in the 3rd semester of the Nursing (RN to BSN) program.

**Corequisite(s):** NURS 177A.

**Grading:** Graded

*NURS 180 - Individual Studies*

1-4 unit(s)

Individual study or project work on a selected problem or professional issue in nursing.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Arrangement must be made with a nursing faculty member and approved by the school director during the semester prior to taking course.

**Grading:** Credit/No Credit

*NURS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*NURS 200 - Population Based Health Care Systems*

3 unit(s)

Planning, policy, organization, and financing of health care systems. Prepares nurses to participate in design, implementation, and evaluation of ethical, cost-effective, quality health care in health care systems to improve health care delivery and client outcomes.

**Prerequisite(s):** Admission to nursing masters program

**Grading:** Graded

*NURS 201 - Clinical Leadership Role Development*

2 unit(s)

The purpose of this course is to prepare students for leadership roles in healthcare through the study, analysis, and application of nursing leadership and management theories and principles.

**Prerequisite(s):** Acceptance into nursing masters program

**Grading:** Graded

*NURS 202 - Theoretical Foundations*

2 unit(s)

Addresses the theoretical underpinnings of nursing practice and research, including a wide range of theories from nursing and other disciplines. Students develop and apply relevant criteria in evaluating theories for practice and research with individuals, families and communities.

**Grading:** Graded

*NURS 204 - Diverse Populations and Health Care*

3 unit(s)

Planning for health promotion and disease prevention among diverse populations, providing available, accessible, and culturally competent care for individuals, families, and communities.

**Prerequisite(s):** Concurrent courses: NURS 200, NURS 202.

**Grading:** Graded

*NURS 212 - Curriculum Development in Nursing*

3 unit(s)

Curriculum development with application to programs in nursing and health education. Focuses on formulation of conceptual framework for curriculum development and utilization in making decisions regarding the objectives, learning experiences, and evaluation strategies.

**Grading:** Graded

*NURS 214 - Nurse Educator Theory & Practicum I*

4 unit(s)

Covers theories, models, and concepts relevant to teaching and learning in nursing education and health care systems. Experience in implementing the educator role using teaching processes and strategies for diverse students and settings. Includes 2 units theory, 2 units practicum

*Misc/Lab: Lecture 5 hours/Supervision 1.5 hours*

**Prerequisite(s):** NURS 200 or NURS 202

**Corequisite(s):** NURS 212

**Grading:** Graded

*NURS 216 - Nurse Educator Theory and Practicum II*

4 unit(s)

Continuing experience with educational theories, models, concepts, and strategies, focusing on educational research, and contemporary educational issues. Advanced experience in implementing the teaching role with increasing independence. Course includes 1 unit theory and 3 units (120 hours) of practicum.

*Misc/Lab: Lecture 5 hours/Supervision 1.5 hours*

**Prerequisite(s):** NURS 212 and NURS 214.

**Grading:** Graded

*NURS 236A - Nursing Administration Theories, Concepts and Practicum I*



3 unit(s)

Emphasis on administrative concepts necessary for management of a health care system in a diverse environment. Opportunity for experience in the nurse administrator role in a practicum.

*Misc/Lab: Lecture 3 hours/Supervision 1.5 hours*

**Pre/Corequisite(s):** NURS 200, NURS 202, NURS 204.

**Grading:** Graded

*NURS 236B - Nursing Administration Theories, Concepts and Practicum II*

4 unit(s)

Opportunity for advanced experience in the nurse administrator role. Applying conceptual models and theories for operations and personnel management, the student assumes the administrator role in a practicum with minimal supervision within a diverse health care setting.

*Misc/Lab: Lecture 4 hours/Supervision 1.5 hours*

**Prerequisite(s):** NURS 236A.

**Grading:** Graded

*NURS 248 - Advanced Health Assessment*

3 unit(s)

This advanced assessment course focuses on differentiation between normal and pathologic changes experienced in a primary care practice. Using systems theory framework, students formulate appropriate diagnoses using pertinent symptomatology and etiologies. May be repeated, but not in same semester.

**Prerequisite(s):** NURS 200, NURS 202, NURS 104 (or equivalent).

**Grading:** Graded

*NURS 250 - Family Nurse Practitioner Concepts and Theory I*

2 unit(s)

Theory and evidence base for primary prevention, health maintenance, health promotion, health screening, health teaching and anticipatory guidance for nurse practitioners with an emphasis on case management techniques and interdisciplinary care. Emphasis on using algorithms and standardized procedures to effect primary prevention

**Prerequisite(s):** NURS 248, NURS 259, NURS 260

**Corequisite(s):** NURS 253.

**Grading:** Graded

*NURS 251 - Family Nurse Practitioner (FNP) Concepts and Theory II*

2 unit(s)

Theoretical basis of secondary prevention in primary care settings. Theory and evidence to assess and manage acute, self-limiting conditions. Use and development of algorithms and protocols for secondary prevention. Emphasis on use of pharmacologic therapeutic regimens with emphasis on secondary prevention.

**Prerequisite(s):** NURS 248, NURS 259, NURS 250, NURS 260

**Corequisite(s):** NURS 254

**Grading:** Graded

*NURS 252 - Family Nurse Practitioner Concepts and Theory II*

2 unit(s)

Diagnosis and management of common illnesses in primary care practice. Research and theory used to identify strategies to promote health and prevent illness. Introduction to pharmacologic therapeutic regimens with emphasis on interdisciplinary care, secondary and tertiary prevention.

**Pre/Corequisite(s):** NURS 250 and NURS 253.

**Grading:** Graded

*NURS 252A - Family Nurse Practitioner (FNP) Concepts and Theory III*

2 unit(s)

Theoretical and evidence base for tertiary prevention for families in primary care settings. Assessment and management of chronic conditions. Development of protocols for tertiary prevention. Integration of knowledge related to primary, secondary, and tertiary prevention.

**Prerequisite(s):** NURS 248, NURS 259, NURS 250, NURS 251, NURS 260

**Corequisite(s):** NURS 256

**Grading:** Graded

*NURS 253 - Family Nurse Practitioner Practicum I*

2 unit(s)

First clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of patient illness; using evidence based clinical practice guidelines.

*Misc/Lab: Laboratory 5 hours*

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** NURS 259, NURS 260, NURS 248

**Corequisite(s):** NURS 250

**Grading:** Credit/No Credit

*NURS 254 - Family Nurse Practitioner Practicum II*

5 unit(s)

Second clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of patient illness; using evidence based clinical practice guidelines

*Misc/Lab: Lecture 5 hours/Supervision 1.5 hours*

**Prerequisite(s):** NURS 259, NURS 260, NURS 248, NURS 250

**Corequisite(s):** NURS 251

**Grading:** Credit/No Credit

*NURS 256 - Family Nurse Practitioner Practicum III*

5 unit(s)

Final clinical practicum increases nurse practitioner competence in the domain of management of patient health/illness status in the areas of health promotion, health protection, disease prevention and management of complex or chronic patient illness; using evidence based clinical practice guidelines.

*Misc/Lab: Lecture 5 hours/Supervision 1.5 hours*

**Prerequisite(s):** NURS 259, NURS 260, NURS 248, NURS 250, NURS 251, NURS 253, NURS 254

**Corequisite(s):** NURS 252

**Grading:** Credit/No Credit

*NURS 258 - Professional Issues for Nurse Practitioners*

2 unit(s)

Exploration of current health care environment as it pertains to policy development, health planning, and economic management at the national, state, and local levels. Exploration of equitable distribution of existing resources, policy development, program evaluation, and client/population outcomes.

**Pre/Corequisite(s):** NURS 250, NURS 252 and NURS 253.

**Grading:** Graded

*NURS 259 - Advanced Clinical Pharmacology*

3 unit(s)

This course is designed to prepare family nurse practitioners and nurse educators to accurately describe, administer, and counsel patients regarding appropriate and safe medication regimens. Basic pharmacologic principles and the pharmacologic actions of the major drug classes will be discussed in relation to physiologic systems, with emphasis on the application of these agents.

**Grading:** Graded

*NURS 260 - Advanced Physiology and Pathophysiology for Advanced Practice Nursing*

3 unit(s)

Advanced physiology and compensatory mechanisms are examined with emphasis on system interaction, homeostasis, and pathophysiology. Focus for this course is on physiologic processes with clinical application to individuals across the lifespan. Course has both online and in-class components.

**Prerequisite(s):** Graduate status or instructor consent.

**Grading:** Graded

*NURS 295A - Research Methods*

3 unit(s)

This course provides basic principles of research. Novice researchers are familiarized with research methodology. Candidates engage in evaluating public research, and develop and write a feasible proposal for implementation as a research project.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** NURS 200

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GVAR in this master's program.

*NURS 297 - Master's Project*

1-4 unit(s)

Project option is an alternative to thesis option. Students integrate learning from graduate courses and clinical practice by developing a project proposal, implementing and reporting the project in the form of a publishable paper. May not be repeated in same semester.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** NURS 295A and advancement to candidacy.

**Grading:** Mandatory CR/NC/RP

*NURS 298 - Special Studies*

1-6 unit(s)

For students pursuing advanced study related to populations-at-risk. Independent study project developed by the student may be an individualized small research activity or special study topic.

**Grading:** Mandatory CR/NC/RP

*NURS 299 - Master's Thesis*

1-4 unit(s)

Research proposal developed, research completed and study reported in approved thesis format during three semesters.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*NURS 574 - The Role of Diversity and Social Issues in Healthcare*

2 unit(s)

Analysis of social and cultural factors affecting health among populations defined by age, education, gender, ethnicity, culture, religion, occupation, income, mental or physical disability and language.

**Prerequisite(s):** Admission to the DNP program.

**Grading:** Graded

*NURS 575 - Application of Theories in Advanced Nursing Practice*

2 unit(s)

Application of theories of nursing, ethics, and teaching-learning to advanced nursing practice and healthcare leadership.

**Prerequisite(s):** Admission to the DNP program.

**Grading:** Graded

*NURS 576 - Application of Biostatistics to Population*

3 unit(s)

Examination of methods to generate and analyze biostatistical data to design, implement, and evaluate programs and policies for the healthcare of populations.

**Prerequisite(s):** Admission to the DNP program.

**Grading:** Graded

*NURS 580 - DNP Practicum*

6 unit(s)

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Course may be repeated 3 times for up to 24 units.

*Course is repeatable for up to 24 units.*

**Grading:** Credit / No Credit

*NURS 583 - Leadership and Professional Responsibility in Complex Healthcare Systems*

2 unit(s)

Analysis of nursing leadership and evidence-based management theories necessary for the leadership of complex healthcare systems. Application of concepts of leadership, management, planning, and evaluation of population based efforts to provide quality affordable care. Analysis of professional role and responsibilities.

**Prerequisite(s):** NURS 574, NURS 575 and NURS 576.

**Grading:** Graded

*NURS 584 - Technology, Informatics, and Data Management in the Transformation of Healthcare*

2 unit(s)

Overview of patient-centered technology and clinical information systems. Application of nursing informatics in healthcare systems. Use of technology in evaluation of clinical outcomes to improve the healthcare system and to evaluate the effectiveness, quality, and efficiency of healthcare programs.

**Prerequisite(s):** NURS 574, NURS 575 and NURS 576.

**Grading:** Graded

*NURS 585 - Foundations of Evidence-Based Practice*

3 unit(s)

Exploration of issues related to evidence-based practice. Development of skills needed to identify, critically appraise, and utilize best evidence.

**Prerequisite(s):** NURS 574, NURS 575 and NURS 576.

**Grading:** Graded

*NURS 586 - Transformation of Health Care Systems: Health Policy and Economics*

2 unit(s)

Healthcare policies and economics and the political forces that shape them. Role of the DNP in the analysis, formulation, and implementation of healthcare policies.

**Prerequisite(s):** NURS 583, NURS 584 and NURS 585.

**Grading:** Graded

*NURS 587 - Principles of Epidemiology*

*3 unit(s)*

Principles and concepts of epidemiology. Distribution and determinants of disease risk in populations across the lifespan. Approach to disease and intervention, identification of cause of disease, response to disease outbreak, disease surveillance, evaluation of screening and prevention, and ethical issues.

**Prerequisite(s):** NURS 583, NURS 584 and NURS 585.

**Grading:** Graded

*NURS 591 - Curriculum Development*

*3 unit(s)*

Exploration of philosophical foundations of curriculum, curriculum design, and the development of curriculum frameworks, outcomes, and competencies. Analysis of determinants of learning and the developmental stages of the learning process. Theoretical foundations of teaching-learning emphasizing critical thinking and active learning.

**Prerequisite(s):** NURS 586, NURS 587.

**Grading:** Graded

*NURS 592 - Evaluation in Nursing Education*

*3 unit(s)*

Focuses on assessment, measurement, and evaluation of learning and program outcomes in nursing. Explores theories of educational measurement and evaluation and of measures to evaluate teaching effectiveness, student learning, student outcomes, and student clinical performance.

**Prerequisite(s):** NURS 591, NURS 593, NURS 595.

**Grading:** Graded

*NURS 593 - Financial Aspects of Projects and Practice*

*2 unit(s)*

Principles of health care economics, third-party reimbursement, costing, budgets and budgeting, variance, economic evaluation methods, and writing a business plan to defend or market a health care program. Management of a successful project or practice emphasizing fiscal planning and control.

**Prerequisite(s):** NURS 586, NURS 587.

**Grading:** Graded

*NURS 594 - Application of Evidence-Based Teaching in Nursing*

*2 unit(s)*

Guided experience with a master teacher in nursing. Experiential classroom, clinical, and simulation teaching. Implementation of a teaching unit using principles of evidence-based teaching.

*Lecture 1 hour/Lab 2 hours.*

**Prerequisite(s):** NURS 591, NURS 593 and NURS 595.

**Grading:** Graded

*NURS 595 - Translating Evidence into Reflective Practice I*

2 unit(s)

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Identification and development of a project proposal for implementation. Formal defense of proposal and IRB approval. One hour clinical conference per week. (204-306 total practicum hours).

**Prerequisite(s):** NURS 586, NURS 587.

**Grading:** Graded

*NURS 596 - Translating Evidence into Reflective Practice II*

2 unit(s)

Integration of clinical practice, theory, and research. Development of clinical expertise in management of health problems in selected populations. Implementation of project proposal. One hour clinical conference per week. (204-306 total practicum hours).

**Prerequisite(s):** NURS 591, NURS 593 and NURS 595.

**Grading:** Graded

*NURS 597 - Translating Evidence into Reflective Practice III Doctoral Project*

2 unit(s)

Evaluation of data and completion of doctoral project. Dissemination of results through an oral defense and manuscript submission to a peer-reviewed journal.

**Prerequisite(s):** NURS 592, NURS 594 and NURS 596.

**Grading:** Mandatory CR/NC/RP

# College of Humanities and the Arts

- Overview
- Creative Arts Program
- Latin American Studies Program
- Courses

**Office:** Washington Square Hall 120

**Telephone:** (408) 924-4300

**Email:** [humanities-arts@sjsu.edu](mailto:humanities-arts@sjsu.edu)

**Website:** [www.sjsu.edu/humanitiesandarts](http://www.sjsu.edu/humanitiesandarts)

## Overview

The College of Humanities and the Arts seeks to instill in students an understanding of human existence that is tolerant, moral and appreciative of human creativity as manifested in works of language and literature, the visual and performing arts, philosophy and theology, and by engagement in the creation of art and criticism.

Through its programs, the College aims to develop engaged participants in the local communities as well as in the global dimension of cultural, intellectual, and economic life. College faculty educate students for lifelong learning as well as for their first job after graduation. Building upon a foundation of excellent oral and written communication, the College helps students pursue a wide variety of paths to knowledge and careers, through specialized study in many fields, including art history, animation, comparative literature, dance, film, foreign languages, musical composition and performance, painting, radio broadcasting, sculpture, television, linguistics, comparative religion, philosophy, and technical and creative writing.

Faculty in all disciplines of the College engage in research published by major scholarly journals and university presses, supported by the major national grants and foundations, and presented at the major scholarly conferences. Artists within the College publish in important literary journals, exhibit at nationally recognized venues, or participate in prestigious performing arts productions. Throughout the College, faculty seek to produce scholarship or creative works that achieve national recognition.

College curricula develop the individual's power to communicate effectively and to analyze critically the conditions upon which cultural perceptions are built. Courses in the College attempt to reveal the evolving aspiration toward aesthetic and intellectual power in human cultures by exposing the student to important ideas, achievements, and experiences in the humanities and the creative arts. In its many professional arts programs, the College develops the talent of those who have the skill to perform or create works of art, fixing in vivid form the values of diverse heritages. In its programs in language, literature, philosophy, and other areas of the humanities, the College engages students in the discovery and exploration of works from around the world that deepen understanding of how human imagination and intellect function within different historical and cultural contexts. A primary purpose of a humanities education is to develop the skills and confidence that support a creative, analytical mind capable of lifelong learning and adaptation to different contexts and opportunities.

Through its General Education, Arts, and many scholarly programs and research units, such as the Martha Heasley Cox Center for Steinbeck Studies, the Ira F. Brilliant Center for Beethoven Studies, the Center for Literary Arts, and the Center for Comparative Philosophy, the College of Humanities and the Arts makes an indispensable contribution



to the SJSU community and the region surrounding it. A list of programs and courses can be found on each department page in the catalog.

- Department of Art and Art History
- Department of Design
- Department of English and Comparative Literature
- Department of Film and Theatre
- Department of Humanities
- Department of Linguistics and Language Development
- Department of Philosophy
- Department of World Languages and Literatures
- School of Journalism and Mass Communication
- School of Music and Dance

## Humanities and the Arts Student Success Center (HASSC)

**Office:** Washington Square Hall 120

**Telephone:** 408-924-4300

**Email:** [humanities-arts@sjsu.edu](mailto:humanities-arts@sjsu.edu)

**Website:** [www.sjsu.edu/visualartsadvising](http://www.sjsu.edu/visualartsadvising)

The Humanities and the Arts Student Success Center provides general education advising, academic planning and serves as a resource to other programs at SJSU. We serve undergraduate students who are pursuing major(s) within the College of Humanities and the Arts. We offer both drop-in advising and appointments. All students within the college are encouraged to meet with an academic advisor to discuss a plan that will ensure timely graduation.

## Internships

Internships provide students with the opportunity to incorporate work experience in a professional setting as part of their academic programs. Internship representatives are available within each department.

## Special Centers

The College of Humanities and the Arts is home to the Martha Heasley Cox Center for Steinbeck Studies, the Ira F. Brilliant Center for Beethoven Studies, the Center for Literary Arts, and the Center for Comparative Philosophy. The College manages the San José State University Writing Center, a resource for all SJSU students to help them become better writers. The College also manages the Hammer Theatre, a city-owned venue that offers a professional venue for our best students in theater, music, and dance.

## Teaching Credential Preparation Programs

Teaching credential preparation programs are offered by the School of Music and Dance, the Department of Art and Art History, the Department of English and Comparative Literature, the Department of Humanities (Liberal Studies), and the Department of Film and Theatre.

## Creative Arts Program

**Office:** Clark Hall 419

**Telephone:** 408-924-4481

**Email:** creativearts.sjsu@gmail.com

**Website:** www.sjsu.edu/creativearts

Offered by the Department of Humanities.

### Professors

Shannon Rose Riley  
Jennifer Rycenga  
Susan Verducci-Sandford

## Programs

- Creative Arts, BA
- Creative Arts Minor

## Latin American Studies Program

**Office:** Clark Hall 420G

**Telephone:** 408-924-4626

Offered by the Department of World Languages and Literatures.

### Professors

Damian Bacich, Coordinator

## Programs

- Latin American Studies Minor

*HA 157SL - Community Action/Community Service*

*3 unit(s)*

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HA 187 - Creative Team Practicum*

*3 unit(s)*

Collaborative hands-on practical application of concepts and skills for written and visual communications solutions in a fast-paced client-driven environment supported by an interdisciplinary team of instructors of technical writing, graphic design, videography and photography. Enrollment requirements are based on section topic.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

## Department of Art and Art History

**Office:** Art Building 116

**Telephone:** 408-924-4320

**Email:** [art@sjsu.edu](mailto:art@sjsu.edu)

**Website:** [www.sjsu.edu/art](http://www.sjsu.edu/art)

## Art History and Visual Culture

### Associate Professors

Dore E. Bowen  
Anthony Raynsford, Chair

## Fine Art Studio Program

### Professors

Robin J. Lasser  
Patrick J. Surgalski  
Shannon G. Wright

### Associate Professors

Andrew Blanton  
G. Craig Hobbs

Valerie Mendoza  
Adam C. Shiverdecker

### **Assistant Professors**

Bin T. Danh  
Rhonda M. Holberton  
Shaun P. O'Dell  
Chelsea Thompto

## **Overview**

Visual art and art history play a central role in our increasingly visual and interactive culture. Without the barriers of language, the visual arts are able to foster the kind of cross-cultural understanding required of global citizens. Founded in 1913, the Department of Art and Art History is committed to researching, teaching and practicing conceptual creativity and creative problem solving in media which encompass equally the most contemporary technologies and the most ancient forms of artistic practice. We are dedicated to the understanding and analysis of visual communication, to complex critical thinking and writing, and to the interpretation of local and global culture, past and present. Our BA, BFA, MA, and MFA degrees, accredited by the National Association of Schools of Art and Design (NASAD), offer students the opportunity to study with award-winning faculty in a "best-in-the-West" combination of facilities for making, exhibiting, and researching art across many media. All programs are supported and enriched by a diverse schedule of exhibitions in the Natalie and James Thompson Gallery, eight student galleries, and weekly public lectures.

## **Undergraduate**

### **Art History and Visual Culture, BA**

The Art History and Visual Culture major, offered by the Department of Art and Art History, enriches the lives of its students by providing an in-depth knowledge of cultural traditions and creative accomplishment, and by providing the skills necessary for applying that knowledge in the service of our multicultural society. Course offerings include a wide range of themes and topics in Modern, Contemporary, Classical, Renaissance, Islamic, and Nineteenth Century art, architecture, and design. Examination of these diverse areas encourages students to become responsible citizens through an understanding of the aesthetic, cultural, and ethical choices inherent in human development. Students in this program acquire the communication skills, research techniques, and methods of critical inquiry that have become a vital part of modern life.

- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements	35
Major Preparation	15-17
Major Core Requirements	18
Major Electives	30
University Electives	20-22

**Total** **120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (15-17 units)

- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)
- ANTH 160 - Reconstructing Lost Civilizations 3 *unit(s)* (R)

## Area S Arts (3 units)

Complete one course from:

- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- RELS 191 - Religion in America 3 *unit(s)* (S)
- RTVF 110 - Media and Culture 3 *unit(s)* (S)
- URBP 101 - The City 3 *unit(s)* (S)
- WOMS 101 - Sex, Power, and Politics 3 *unit(s)* (S)

## World Language/Art Foundation (6-8 units)

Complete 2 world language or 2 art foundation courses:

- World Language Course 3-4 *unit(s)*
- World Language Course 3-4 *unit(s)*
- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*

- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 14 - Color 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*

## Major Requirements (48 units)

### Core Requirements - General Art History (6 units)

Complete two courses from lower division Art History Survey:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

### Art History Methods (3 units)

Complete one course from:

- ARTH 101 - Introduction to Practice of Art History 3 *unit(s)*
- ARTH 175 - Theories of Art History and Art Criticism 3 *unit(s)*

### Global Art Area V (3 units)

Complete one course from:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

### Critical Periods in Western Art (3 units)

Complete one course from:

- ARTH 187A - Art of the Italian Renaissance, Fifteenth Century 3 *unit(s)* (V)
- ARTH 190B - Early Modernist Art 3 *unit(s)* (V)

## Major Electives (30 units)

Complete 30 units from the coursework below. One course may be art studio. A minimum of one course from each of the following four groups, with a minimum of 3 additional courses selected from one of the groups.

### Area 1: World Art

- ARTH 182A - Art of the Americas 3 *unit(s)*
- ARTH 183B - Art of Islam-Early Islam to the Seljuks 3 *unit(s)*
- ARTH 191B - Women in Art 3 *unit(s)*
- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

- ARTH 194A - Art of China *3 unit(s)*
- ARTH 195 - Art of Japan *3 unit(s)*

## Area 2: Ancient and Early Modern Art in Europe

- ARTH 183A - Art of Egypt and Mesopotamia *3 unit(s)*
- ARTH 183C - Art of Islam 13th-19th Century *3 unit(s)*
- ARTH 185 - Art of the Classical World *3 unit(s)*
- ARTH 186 - Medieval Art *3 unit(s)*
- ARTH 187A - Art of the Italian Renaissance, Fifteenth Century *3 unit(s)*
- ARTH 187B - Art of the Italian Renaissance, Sixteenth Century *3 unit(s)*
- ARTH 187C - The Art of Renaissance Venice *3 unit(s)*
- ARTH 188A - Northern Renaissance Fourteenth and Fifteenth Centuries *3 unit(s)*
- ARTH 188B - Northern Renaissance, Sixteenth Century *3 unit(s)*
- ARTH 189A - Baroque Art and Architecture in Italy and France *3 unit(s)*
- ARTH 189B - Northern Baroque Art and Architecture *3 unit(s)*

## Area 3: Modern and Contemporary Art

- ARTH 110 - History and Theory of New Media *3 unit(s)*
- ARTH 126 - History of Photography *3 unit(s)*
- ARTH 160 - Modern Architecture *3 unit(s)*
- ARTH 161 - Contemporary Architecture *3 unit(s)*
- ARTH 162 - California Architecture *3 unit(s)*
- ARTH 163 - Twentieth Century Urban Design *3 unit(s)*
- ARTH 176A - Graphic Design History and Theory *3 unit(s)*
- ARTH 176B - Industrial Design in Society *3 unit(s)*
- ARTH 182B - American Art *3 unit(s)*
- ARTH 190A - Art of the Nineteenth Century *3 unit(s)*
- ARTH 190B - Early Modernist Art *3 unit(s)*
- ARTH 190C - 20th Century Art: from Dada to Pop *3 unit(s)*
- ARTH 191A - Issues in Contemporary Art *3 unit(s)*
- ARTH 192A - Modern Design *3 unit(s)*
- ARTH 192C - History of Interior Design *3 unit(s)*

## Capstone (3 units)

Complete one course from:

- ARTH 199 - Art History Capstone Seminar *3 unit(s)*
- ARTH 277 - Seminar in Historiography *3 unit(s)*

## University Electives (20-22 units)

## Total Units Required (120 units)



## Art, Digital Media Art Concentration, BFA

The BFA Concentration in Digital Media Art (DMA), offered by the Department of Art and Art History, offers a multidisciplinary degree in digital art and design in the areas of computer graphics, web development, programming, physical computing, fabrication, prototyping, human computer interface (HCI), interaction design and computer games. Our curriculum is hands-on, providing project-oriented learning in collaborative workshop environments along with individually directed research and culminating exhibition opportunities. The DMA program area teaches technical, aesthetic, and critical thinking skills to empower students as problem solvers and innovators in the field of digital technology. Located in the heart of Silicon Valley, the DMA program is dedicated to the advancement of contemporary technologies through research and experimentation at the intersection of art and science. Students graduating from the program develop real-world skills using a wide range of tools, technologies, and techniques.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	24
Major Requirements	25
Specialized Courses	27
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 1, ART 2, ART 3 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.
2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

#### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (24 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 unit(s)
- ART 13 - Three-Dimensional Design Concepts 3 unit(s)
- ART 24 - Drawing I 3 unit(s)
- ART 68 - Beginning Sculpture: Object & Concept 3 unit(s)
- ART 74 - Introduction to Digital Media 3 unit(s)
- ART 75 - Introduction to Digital Video Art 3 unit(s)
- PHOT 40 - Beginning Photography 3 unit(s)

## Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 unit(s) (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 unit(s) (C1)
- ARTH 70C - Arts of Asia 3 unit(s) (C1)

## Major Requirements (52 units)

### Core Requirements (19 units)

#### Art Fundamentals (10 units)

- ART 1 - Professional Preparation in Art 1 unit(s)
- ART 2 - The Artist in Contemporary Culture 3 unit(s)
- ART 3 - Medium and Message 3 unit(s)
- ART 100W - Writing Workshop: Fine Arts 3 unit(s) (Z)

#### Upper Division Art History (9 units)

- ARTH 110 - History and Theory of New Media 3 unit(s)

## Complete One Course From:

- ARTH 193A - Worlds of Art and Culture 3 unit(s) (V)
- ARTH 193B - East Meets West in Art 3 unit(s) (V)

### Complete One Course From:

- ARTH 160 - Modern Architecture 3 *unit(s)*
- ARTH 161 - Contemporary Architecture 3 *unit(s)*
- ARTH 190C - 20th Century Art: from Dada to Pop 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*
- ARTH 192A - Modern Design 3 *unit(s)*

### Specialized Courses (27 units)

#### Upper Division Digital Media Core (15 units)

- ART 101 - Digital Media Art 3 *unit(s)*
- ART 102 - 3D Modeling and Printing 3 *unit(s)*
- ART 103 - Art as System 3 *unit(s)*
- ART 104 - Interdisciplinary Seminar in Digital Media Art 3 *unit(s)*
- ART 105 - Advanced Digital Video 3 *unit(s)*

#### Material Processes (3 units)

Complete one course:

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 135 - Topics in Moldmaking for Artists 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*
- ART 178 - Art Field Work 1-3 *unit(s)*
- PHOT 120 - Image and Idea 3 *unit(s)*

#### Specialized Digital Media (9 units)

Complete three courses:

- ART 106 - Topics in Human Machine Interface 3 *unit(s)*
- ART 107 - Advanced Projects in Digital Media Art 3 *unit(s)*
- ART 108 - Introduction to Game Studies 3 *unit(s)*
- ART 109 - Web Development in HTML, CSS and JavaScript 3 *unit(s)*

- ART 175 - Special Topics in Studio Art 3 *unit(s)*
- ART 193 - Digital Materials 3 *unit(s)*

## Capstone (6 units)

- ART 195 - BFA Group Exhibition 3 *unit(s)*

## Complete One Course From:

- ART 198 - BFA Seminar 3 *unit(s)*
- ART 210 - Seminar in Digital Media Art 3 *unit(s)*

## Total Units Required (120 units)

# Art, Photography Concentration, BFA

The BFA Concentration in Photography, offered by the Department of Art and Art History prepares students for careers in photography by providing courses that emphasize image as it relates to concept, theory, and professional practice in commercial and fine art photography. Our curriculum engages students in a diverse range of contemporary practices in the medium, from innovative approaches to digital imaging and traditional silver-based photography, to historic alternative photographic processes. We recognize the possibilities of the interdisciplinary nature of photographic practice and encourage interested students to explore installation, video and electronic media. In addition to our emphasis on fine art photography our program includes a strong commercial photography component, offering introductory through advanced courses in studio lighting and professional practices. The blend of fine art and commercial photography makes our program unique. Our technical facilities are extensive and include traditional black and white darkroom, commercial lighting studio stations, alternative practices studio, and large format digital printers.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	18
Major Requirements	28
Specialization Courses	30
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 1, ART 2, ART 3 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.
2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (44 units)**

### **Core Lower Division General Education (30 units)**

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (6 units)**

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Complete One Sequence From:**

#### **African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (18 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 74 - Introduction to Digital Media 3 *unit(s)*
- PHOT 40 - Beginning Photography 3 *unit(s)*

### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

### Major Requirements (58 units)

#### Art Fundamentals (7 units)

- ART 1 - Professional Preparation in Art 1 *unit(s)*
- ART 2 - The Artist in Contemporary Culture 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)

## Art/Art History Electives (6 units)

**Complete Two Courses in One of the Following Areas or Other Approved Electives.**

### Digital Media Art

- ART 75 - Introduction to Digital Video Art 3 *unit(s)*
- ART 105 - Advanced Digital Video 3 *unit(s)*

### Photography

- PHOT 110 - Black and White Photography 3 *unit(s)*
- PHOT 113 - Alternative Photo Media 3 *unit(s)*
- PHOT 114 - Advanced Black and White Photography 3 *unit(s)*
- PHOT 122 - Advanced Studio Lighting 3 *unit(s)*
- PHOT 123 - Photography as Illustration 3 *unit(s)*
- PHOT 125 - Special Topics in Photography 3 *unit(s)*

### Pictorial Arts

- ART 26 - Drawing II 3 *unit(s)*
- ART 61 - Beginning Painting 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 158 - Topics in Drawing III 3 *unit(s)*
- ART 162 - Watercolor 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*
- ART 165 - Topics in Figure Painting 3 *unit(s)*

### Spatial Art

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 172 - Intermediate Sculpture: System/Structure 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*



## Upper Division Art History (9 units)

- PHOT 126 - History of Photography 3 *unit(s)*

### Complete One Course From:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

### Complete One Course From:

- ARTH 110 - History and Theory of New Media 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*

## Specialization Courses (30 units)

*Courses cannot be taken again if taken in another requirement area.*

- PHOT 112 - Color Photography 3 *unit(s)*
- PHOT 115 - Intermediate Digital Imaging 3 *unit(s)*
- PHOT 116 - Contemporary Issues in Photography 3 *unit(s)*
- PHOT 120 - Image and Idea 3 *unit(s)*
- PHOT 121 - Introduction to Studio Lighting 3 *unit(s)*
- PHOT 129 - Professional Practices in Photography 3 *unit(s)*
- PHOT 197 - Senior Project Photography 3 *unit(s)*

### Complete Three Courses From:

- PHOT 110 - Black and White Photography 3 *unit(s)*
- PHOT 113 - Alternative Photo Media 3 *unit(s)*
- PHOT 114 - Advanced Black and White Photography 3 *unit(s)*
- PHOT 122 - Advanced Studio Lighting 3 *unit(s)*
- PHOT 123 - Photography as Illustration 3 *unit(s)*
- PHOT 125 - Special Topics in Photography 3 *unit(s)*

## Capstone (6 units)

- ART 198 - BFA Seminar 3 *unit(s)*
- ART 199 - BFA Project 3 *unit(s)*

## Total Units Required (120 units)

# Art, Pictorial Art Concentration, BFA

The Pictorial Art BFA program, offered by the Department of Art and Art History, provides students with an intellectual, creative, and physical setting that supports excellence in painting, drawing, and printmaking. It provides a mix of discipline and autonomy. Preparation begins with a strong understanding of the fundamentals of drawing. From that foundation, the program provides comprehensive challenges in all pictorial disciplines and emphasizes both the historical traditions of painting and contemporary approaches. Faculty and students engage in critical and personal dialogue to encourage the development of a strong independent vision.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	24
Major Core Requirements	25
Concentration Requirements	27
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 1, ART 2, ART 3 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.
2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (24 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 26 - Drawing II 3 *unit(s)*
- ART 61 - Beginning Painting 3 *unit(s)*
- ART 74 - Introduction to Digital Media 3 *unit(s)*
- PHOT 40 - Beginning Photography 3 *unit(s)*

## Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

## Major Requirements (52 units)

### Core Requirements (19 units)

#### Art Fundamentals (10 units)

- ART 1 - Professional Preparation in Art 1 *unit(s)*
- ART 2 - The Artist in Contemporary Culture 3 *unit(s)*
- ART 3 - Medium and Message 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)

#### Upper Division Art History (9 units)

- One Course of Upper Division Art History 3 *unit(s)*

## Complete One Course From:

- ARTH 190B - Early Modernist Art 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*

## Complete One Course From:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)

- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

## Specialized Courses (15 units)

### Complete Two Courses From:

- ART 150 - Topics in Printmaking and Letterpress 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 155 - Topics in Monotype 3 *unit(s)*

### Complete Two Courses From:

- ART 25 - Expressive Drawing 3 *unit(s)*
- ART 158 - Topics in Drawing III 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*

### Complete One Course From:

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*
- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 134 - Topics in Advanced Ceramics 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 171 - Advanced Sculpture 3 *unit(s)*
- ART 172 - Intermediate Sculpture: System/Structure 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*

## Area Requirements (12 units)

### Complete Four Courses in One of The Following Areas:

*Courses cannot be taken again if taken in another requirement area except ART 152, ART 153 and ART 155 which are repeatable for credit.*

### Area One

- ART 158 - Topics in Drawing III 3 *unit(s)*
- ART 162 - Watercolor 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*

- ART 165 - Topics in Figure Painting 3 *unit(s)*
- ART 166 - Topics in Advanced Painting 3 *unit(s)*

## Area Two

- ART 150 - Topics in Printmaking and Letterpress 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 155 - Topics in Monotype 3 *unit(s)*

## Capstone (6 units)

- ART 198 - BFA Seminar 3 *unit(s)*
- ART 199 - BFA Project 3 *unit(s)*

## Total Units Required (120 units)

# Art, Spatial Art Concentration, BFA

The BFA Art, Concentration in Spatial Art, offered by Department of Art and Art History, is a degree for artists seeking to specialize in sculpture and three-dimensional art processes. Spatial Art students begin with the common Art core of drawing, photography, digital media art, three-dimensional design, art history, and seminars about making a career as an artist. They then move into intermediate and advanced classes focused on large metal casting, woodworking, glass, ceramics, jewelry, and installation art. All studio classes emphasize concept development and recognition of contemporary art-world trends, while upper-division art history classes provide context and develop students' critical thinking skills.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	24
Major Core Requirements	25
Specialized Courses	27
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

No portfolios are required at the time of application for admission to SJSU. Major requirements for the first two years of study for BA Art/Studio Practice and all BFA degrees are very similar so that students have time to choose the right path and can apply for the BFA, if they choose to do so. At that time BFA program applicants must meet the following departmental requirements:

1. Have completed, be currently enrolled in, or planning to enroll within the following two semesters in all coursework in the common preparation for the BA and BFA Art majors (25-28 units of drawing, digital media, photography, sculpture, art history, ART 1, ART 2, ART 3 and ART 100W) with a minimum grade point average of 3.0 on a 4.0 scale. Also recommended, are three to six additional units from the desired BFA concentration area.
2. Pass the BFA - Art admissions review. During the review, which is held in October and March each year, images of the applicant's creative work are reviewed by the art faculty to determine if the work demonstrates the creative level expected of BFA candidates. Instructions are available on the Art and Art History Department website.

Students complete the BFA Art program with a capstone project, for which each candidate prepares an individual art exhibit to demonstrate the candidate's professional competence.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (44 units)**

### **Core Lower Division General Education (30 units)**

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (6 units)**

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Complete One Sequence From:**

#### **African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (24 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*
- ART 74 - Introduction to Digital Media 3 *unit(s)*
- PHOT 40 - Beginning Photography 3 *unit(s)*

### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)



## Major Requirements (52 units)

### Core Requirements (19 units)

#### Art Fundamentals (10 units)

- ART 1 - Professional Preparation in Art 1 *unit(s)*
- ART 2 - The Artist in Contemporary Culture 3 *unit(s)*
- ART 3 - Medium and Message 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)

#### Upper Division Art History Requirements (9 units)

- One Course of Upper Division Art History 3 *unit(s)*

#### Complete One Course From:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

#### Complete One Course From:

- ARTH 160 - Modern Architecture 3 *unit(s)*
- ARTH 161 - Contemporary Architecture 3 *unit(s)*
- ARTH 190C - 20th Century Art: from Dada to Pop 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*
- ARTH 192A - Modern Design 3 *unit(s)*
- ARTH 192C - History of Interior Design 3 *unit(s)*

## Specialized Courses (27 units)

*Courses can not be taken again if taken in another requirement area.*

- ART 173 - Topics in Installation Art 3 *unit(s)*

#### Complete Three Courses From:

- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*

## Additional Courses (15 units)

- Complete two upper division courses from ART, ARTH, and/or PHOT. Courses cannot be taken again if taken in another requirement area 6 *unit(s)*

### Complete Three Courses From:

- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 134 - Topics in Advanced Ceramics 3 *unit(s)*
- ART 135 - Topics in Moldmaking for Artists 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*
- ART 172 - Intermediate Sculpture: System/Structure 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*
- ART 175 - Special Topics in Studio Art 3 *unit(s)*
- ART 180 - Individual Studies 1-3 *unit(s)*

### Capstone (6 units)

- ART 198 - BFA Seminar 3 *unit(s)*
- ART 199 - BFA Project 3 *unit(s)*

### Total Units Required (120 units)

## Art, Studio Practice Concentration (Preparation for Teaching), BA

The BA in Studio Practice/Preparation for Teaching, offered by the Department of Art and Art History, is designed for students interested in teaching art in high school or middle school and has been approved by the California Commission on Teacher Credentialing (CCTC) as meeting the undergraduate subject matter preparation for a single subject credential program to be completed after the BA. The Preparation for Teaching degree provides a broad foundation in contemporary art practice and permits some specialization in a favorite art medium as well as specialized courses in teaching art education for young people. (Note that completing this major does not guarantee admission to a credential program; see [www.sjsu.edu/education](http://www.sjsu.edu/education) for more information.) This is an excellent time to prepare for a teaching career in California.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements

44

Major Preparation	27
Major Core Requirements (includes Capstone)	25
Specialized Courses	9
University Electives	18
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)

- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (27 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*
- ART 74 - Introduction to Digital Media 3 *unit(s)*
- PHOT 40 - Beginning Photography 3 *unit(s)*

### General Art History Survey (3 units)

*Highly recommend students take ARTH 70B.*

Complete one course:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

### Aesthetics and Art Theory (3 units)

Complete one course:

- ARTH 101 - Introduction to Practice of Art History 3 *unit(s)*
- PHIL 66 - Introduction to Aesthetics 3 *unit(s)* (C1)
- PHIL 106 - Philosophy of Art 3 *unit(s)*

## Specialized Art History (3 units)

Complete one course:

- ARTH 185 - Art of the Classical World 3 *unit(s)*
- ARTH 186 - Medieval Art 3 *unit(s)*
- ARTH 187A - Art of the Italian Renaissance, Fifteenth Century 3 *unit(s)*
- ARTH 190B - Early Modernist Art 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*
- ARTH 160 - Modern Architecture 3 *unit(s)*
- ARTH 161 - Contemporary Architecture 3 *unit(s)*

## Major Requirements (34 units)

### Core Requirements (22 units)

### Art Fundamentals (13 units)

- ART 1 - Professional Preparation in Art 1 *unit(s)*
- ART 2 - The Artist in Contemporary Culture 3 *unit(s)*
- ART 3 - Medium and Message 3 *unit(s)*
- ART 61 - Beginning Painting 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)

### Teaching Fundamentals (6 units)

- ART 138 - Elementary Art Methods 3 *unit(s)*
- ART 139 - Teaching Diversity through Art 3 *unit(s)*

### Upper Division Art History (3 units)

Complete one course:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

### Capstone (3 units)

- ARED 150 - Field Experience in the Arts 3 *unit(s)*

## Area Focus (9 units)

Complete three (3) courses in one of the following areas:

*Courses can not be taken again if taken in another requirement area.*

### Ceramics

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 134 - Topics in Advanced Ceramics 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*

### Craft

- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*

### Drawing/Painting

- ART 25 - Expressive Drawing 3 *unit(s)*
- ART 26 - Drawing II 3 *unit(s)*
- ART 158 - Topics in Drawing III 3 *unit(s)*
- ART 159 - Advanced Life Drawing 3 *unit(s)*
- ART 162 - Watercolor 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*
- ART 166 - Topics in Advanced Painting 3 *unit(s)*

### Photography

- PHOT 110 - Black and White Photography 3 *unit(s)*
- PHOT 112 - Color Photography 3 *unit(s)*
- PHOT 115 - Intermediate Digital Imaging 3 *unit(s)*
- PHOT 116 - Contemporary Issues in Photography 3 *unit(s)*

### Printmaking

- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 155 - Topics in Monotype 3 *unit(s)*

## Sculpture

- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*
- ART 171 - Advanced Sculpture 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*

## University Electives (15 units)

Talk with you advisor from the Department of Art and Art History about a list of recommended minors.

## Total Units Required (120 units)

# Art, Studio Practice Concentration, BA

The BA Art, Concentration in Studio Practice, offered by the Department of Art and Art History, is a degree for students who wish to pursue studio practice with the flexibility of a liberal arts degree. This could include a broad-based approach to artistic media or a focus on a single medium; university electives may be employed for any number of recommended minors. Students who wish to place more emphasis on the communication of ideas may opt to take classes, from painting, to video art, to glassblowing, to photography, to woodworking. Others may desire to specialize in one area as well as to develop preprofessional skills within the major. The BA Art, Concentration in Studio Practice allows students to tailor their own degree to meet precisely their artistic and career interests, while progressing through a rigorous core of theoretical seminars and art history lecture classes that will inform their work in any medium. The degree puts an emphasis on developing creative skills and the ability to fit into a variety of careers from high tech to arts administration.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	21
Major Core Requirements	19
Area Focus	12
University Electives (recommend a minor)	24
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)



- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (21 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*
- ART 74 - Introduction to Digital Media 3 *unit(s)*
- PHOT 40 - Beginning Photography 3 *unit(s)*

## General Art History Survey (3 units)

*Highly recommend students take ARTH 70B.*

Complete one course:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

## Major Requirements (31 units)

### Core Requirements (19 units)

#### Art Fundamentals (10 units)

- ART 1 - Professional Preparation in Art 1 *unit(s)*
- ART 2 - The Artist in Contemporary Culture 3 *unit(s)*
- ART 3 - Medium and Message 3 *unit(s)*
- ART 100W - Writing Workshop: Fine Arts 3 *unit(s)* (Z)

## Upper Division Art History (6 units)

Complete one course:

- ARTH 110 - History and Theory of New Media 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*

Complete one course:

- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)

## Capstone (3 units)

Complete one course:

- ART 176 - Workshops in Studio Art 1 *unit(s)*
- ART 197 - BA Senior Project 3 *unit(s)*
- PHOT 120 - Image and Idea 3 *unit(s)*
- PHOT 197 - Senior Project Photography 3 *unit(s)*

## Area Focus (12 units)

Complete at least three (3) courses from one of the following areas and one (1) additional course from any area:

### Digital Media Art

- ART 75 - Introduction to Digital Video Art 3 *unit(s)*
- ART 101 - Digital Media Art 3 *unit(s)*
- ART 102 - 3D Modeling and Printing 3 *unit(s)*
- ART 103 - Art as System 3 *unit(s)*
- ART 104 - Interdisciplinary Seminar in Digital Media Art 3 *unit(s)*
- ART 105 - Advanced Digital Video 3 *unit(s)*
- ART 106 - Topics in Human Machine Interface 3 *unit(s)*
- ART 107 - Advanced Projects in Digital Media Art 3 *unit(s)*
- ART 108 - Introduction to Game Studies 3 *unit(s)*

### Spatial Art

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)*
- ART 134 - Topics in Advanced Ceramics 3 *unit(s)*
- ART 135 - Topics in Moldmaking for Artists 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*

- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*
- ART 171 - Advanced Sculpture 3 *unit(s)*
- ART 172 - Intermediate Sculpture: System/Structure 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*

## Pictorial Art

- ART 25 - Expressive Drawing 3 *unit(s)*
- ART 26 - Drawing II 3 *unit(s)*
- ART 61 - Beginning Painting 3 *unit(s)*
- ART 150 - Topics in Printmaking and Letterpress 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 158 - Topics in Drawing III 3 *unit(s)*
- ART 162 - Watercolor 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*
- ART 165 - Topics in Figure Painting 3 *unit(s)*
- ART 166 - Topics in Advanced Painting 3 *unit(s)*

## Photography

- PHOT 110 - Black and White Photography 3 *unit(s)*
- PHOT 112 - Color Photography 3 *unit(s)*
- PHOT 113 - Alternative Photo Media 3 *unit(s)*
- PHOT 114 - Advanced Black and White Photography 3 *unit(s)*
- PHOT 115 - Intermediate Digital Imaging 3 *unit(s)*
- PHOT 116 - Contemporary Issues in Photography 3 *unit(s)*
- PHOT 121 - Introduction to Studio Lighting 3 *unit(s)*
- PHOT 122 - Advanced Studio Lighting 3 *unit(s)*
- PHOT 123 - Photography as Illustration 3 *unit(s)*
- PHOT 125 - Special Topics in Photography 3 *unit(s)*
- PHOT 129 - Professional Practices in Photography 3 *unit(s)*

## Gallery/Projects/Internships

- ART 174A - Museum and Gallery Operations 3 *unit(s)*
- ART 174B - Internship: Museum and Gallery Operations 3 *unit(s)*
- ART 175 - Special Topics in Studio Art 3 *unit(s)*
- ART 180 - Individual Studies 1-3 *unit(s)*

## Art History

- ARTH 110 - History and Theory of New Media 3 *unit(s)*
- ARTH 126 - History of Photography 3 *unit(s)*
- ARTH 160 - Modern Architecture 3 *unit(s)*
- ARTH 161 - Contemporary Architecture 3 *unit(s)*
- ARTH 162 - California Architecture 3 *unit(s)*
- ARTH 163 - Twentieth Century Urban Design 3 *unit(s)*
- ARTH 176A - Graphic Design History and Theory 3 *unit(s)*
- ARTH 176B - Industrial Design in Society 3 *unit(s)*
- ARTH 182A - Art of the Americas 3 *unit(s)*
- ARTH 182B - American Art 3 *unit(s)*
- ARTH 183A - Art of Egypt and Mesopotamia 3 *unit(s)*
- ARTH 185 - Art of the Classical World 3 *unit(s)*
- ARTH 186 - Medieval Art 3 *unit(s)*
- ARTH 187A - Art of the Italian Renaissance, Fifteenth Century 3 *unit(s)*
- ARTH 187B - Art of the Italian Renaissance, Sixteenth Century 3 *unit(s)*
- ARTH 188A - Northern Renaissance Fourteenth and Fifteenth Centuries 3 *unit(s)*
- ARTH 188B - Northern Renaissance, Sixteenth Century 3 *unit(s)*
- ARTH 189A - Baroque Art and Architecture in Italy and France 3 *unit(s)*
- ARTH 189B - Northern Baroque Art and Architecture 3 *unit(s)*
- ARTH 190A - Art of the Nineteenth Century 3 *unit(s)*
- ARTH 190B - Early Modernist Art 3 *unit(s)*
- ARTH 190C - 20th Century Art: from Dada to Pop 3 *unit(s)*
- ARTH 191A - Issues in Contemporary Art 3 *unit(s)*
- ARTH 192A - Modern Design 3 *unit(s)*
- ARTH 192C - History of Interior Design 3 *unit(s)*

## University Electives (24 units)

Talk with you advisor from the Department of Art and Art History about a list of recommended minors.

## Total Units Required (120 units)

## Master

### Art, Art History and Visual Culture Concentration, MA

The Master of Arts in Art History and Visual Culture offers a broad education in art history including preparation for a Ph.D. degree program. It also helps to prepare students for a graduate library degree with a specialization in art history as well as a variety of positions including community college professor, researcher, museum curator, art administrator, conservator, and visual resource librarian.

Additional information is available in the Department of Art and Art History Office and on the department website: [www.sjsu.edu/art](http://www.sjsu.edu/art).

## Admissions Requirements

## Admission to Classified Standing

Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing. Admission requires two steps.

In addition to the university admission requirements, applicants must meet requirements for their area:

- **Art History and Visual Culture:** completion of 30 or more college-level semester units or equivalent in Art History courses with a minimum 3.0 GPA. At least 24 units should have been in upper-division Art History courses. Courses in related academic areas will be assessed in reviewing qualifications of applicants. Reading knowledge of a foreign language related to the subject of the intended thesis research is strongly recommended.
- **Art Education:** Completion of 45 or more college-level semester units or equivalent in appropriate Art courses with a minimum 3.0 GPA. At least 12 of these units must have been in Art History of which 6 units were upper-division courses and 3 units were in ART 138 - Elementary Art Methods or their equivalent.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Admission to Conditionally Classified Standing

Applicants who meet minimum requirements for admission to the Graduate Division but do not meet all other (programmatic) requirements (i.e., lacking prerequisites or GPA) may be admitted to conditionally classified standing. They will be advanced to classified standing when the Art History graduate advisor certifies they have satisfied all appropriate requirements.

## Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA - Art and is thus eligible to enroll in ART 299 - Master's Thesis or Project or ART 297B - Master's Project. In order to advance to candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

### **Additional departmental requirements for candidacy include**

- Secure commitment of three faculty members of the university, two of whom must be members of the Art and Art History faculty, to serve as members of the student's MA - Art project or thesis committee, with one regular Art faculty member agreeing to serve as chair. For candidates in Art History and Visual Culture, the chair of the committee and at least one other committee member must be art historians. This committee must approve the student's proposed program for the MA - Art degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.
- Submission of a proposed curriculum program conforming to university and departmental requirements. The proposed program must be approved by the Art graduate committee before the student may be considered for the MA - Art. The proposed program must list a total of 30 semester units, of which at least 15 must be in courses at the 200 level. The proposed program must include the required seminars and ART 299 - Master's

Thesis or Project or ART 297B - Master's Project. Electives to complete the 30 units may be drawn from approved 100 and 200-level courses.

- Passage of the first of two comprehensive exams and the language exam.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA - Art Graduation Requirements

Requirements in the two areas or tracks are as follows:

- Art Education: Of the 30 units required, 21 must be in Art courses and 9 units may be in related areas of study. The upper-division writing requirement and EDLD 221, ART 260, and one seminar must be completed before candidacy may be granted.
- Art History and Visual Culture: Of the 30 units required, 21 must be in Art History and Visual Culture courses and 9 units may be in related areas of study. Five seminars (15 units) must be included. The MA - Art student with a concentration in Art History and Visual Culture must demonstrate reading knowledge of a foreign language related to the subject of the intended thesis research. The student must also pass a two-part comprehensive written examination designed to test general competence in Art History and Visual Culture. The second part of the exam is based on the candidate's thesis proposal once that has been approved by a pre-thesis committee. Attainment of candidacy and eligibility to enroll in ART 299 - Master's Thesis or Project will be contingent upon satisfactory completion of all comprehensive and language examinations.

### Thesis Requirements

- The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.
- Thesis Examination: The candidate for the MA - Art degree must successfully pass a final oral examination based on the thesis.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

#### Masters Requirements (30 units)

#### Core Requirements (15 units)

Complete five courses from:

*ARTH courses are repeatable for credit when course content changes*

- ARTH 270 - Seminar in Ancient Art 3 unit(s)
- ARTH 271 - Seminar in Medieval Art 3 unit(s)
- ARTH 272 - Seminar in Renaissance Art 3 unit(s) (GWAR)
- ARTH 273 - Seminar in Baroque Art 3 unit(s)
- ARTH 274 - Seminar in Nineteenth Century Art 3 unit(s)
- ARTH 275 - Seminar in Twentieth Century Art 3 unit(s) (GWAR)
- ARTH 276 - Seminar in Oriental Art 3 unit(s)
- ARTH 277 - Seminar in Historiography 3 unit(s)
- ARTH 278 - Seminar in Myth and Symbol 3 unit(s)
- ARTH 279 - Seminar in Interdisciplinary Studies 3 unit(s)
- ART 282A - Seminar in the Theory and Criticism of Contemporary Art 3 unit(s)
- ART 282B - Seminar in Contemporary Art 3 unit(s) (GWAR)

## Electives (12 units)

Up to 12 units of departmental graduate advisor-approved 100-level electives. Six units may be taken from other departments with graduate advisor approval.

## Culminating Experience (3 units)

- 2 Comprehensive Qualifying Exams
- Language Examination

## Complete One Option From (Plan A or Plan B):

### Plan A (Thesis)

- ART 299 - Master's Thesis or Project 3 unit(s)

### Plan B (project)

- ART 297B - Master's Project 3 unit(s)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Art History and Visual Culture Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Art, Digital Media Art Concentration, MFA

# Step I. Admission to MFA Classified Standing

Applicants must meet university requirements for admission to classified standing as outlined in this catalog. In addition, they must meet the following requirements:

1. Demonstrated interest in the area of study by a professional portfolio. The equivalent to a Bachelor of Fine Art (BFA) degree in the applicant's designated area of graduate emphasis is recommended. At least 6 upper division units in art history are required.
2. Successful completion of the application procedure for the MFA Admission Review. During the MFA Admission Review, appropriate materials documenting the applicant's creative work are examined by the art faculty to determine whether the quality of the work meets the standards expected for MFA graduate work. Applicants should submit copies of their creative materials for the MFA Admission Review; applicants should not submit their original materials unless requested to do so by the faculty. Applicants who pass the review and who meet minimum school and university requirements are admitted to classified standing for the following semester.

Applicants for the MFA Admission Review will be considered only if the review instructions have been carefully followed and all requested materials (including official transcripts) are supplied. For details, email or call the Department of Art and Art History at [art@sjsu.edu](mailto:art@sjsu.edu) or 408-924-4320. The deadline for application to the departmental review is the second Friday in January each year; application to this departmental review should not be confused with application to SJSU which is also required prior to the university's deadline.

## Admission to Conditionally Classified Status

Applicants who meet the University's minimum requirements for graduate admission and whose creative work, as examined during the MFA Admission Review, shows promise but is not supported by traditional undergraduate preparation in Art may be admitted to conditionally classified status and provided with a list of requirements to be addressed as soon as they enroll. They will be advanced to classified status when the art graduate advisor certifies all appropriate requirements for classified standing have been satisfied. Applicants who have completed an MA - Art degree must meet all prerequisites and requirements for the MFA - Art degree program.

## MFA - Art Admission to Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA - Art program and is thus eligible to enroll in ART 298A - MFA Special Study and ART 298B - MFA Project. In order to attain candidacy, the student must meet the university requirements for admission to candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluation website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the student must:

1. Formalize their MFA project committee by obtaining the signatures of at least three university faculty members (two must be members of the art faculty) to serve as members of the student's committee. A regular art faculty member who teaches in the student's major area of emphasis must serve as chair. This committee must approve the student's proposed program of study for the MFA - Art degree no later than one month prior to the end of the semester preceding the one in which the final project is created.
2. The student must submit a proposed program of study conforming to university and school requirements on the "Departmental Request for Candidacy" form obtained from Graduate Admissions and Program Evaluations and filed according to university deadlines. The proposed program of study must be approved by the art graduate committee and the College of Graduate Studies before the student may be considered for the MFA - Art.



3. Pass the Advancement to Candidacy (ATC) Review. This is an exhibition of original work which can be scheduled during any semester in one of the department's student galleries. Students must obtain signatures of two faculty members willing to serve on their culminating project committee, including at least one faculty member teaching in the designated area of emphasis, in order to apply to the ATC Review. Passing the review is necessary before the student may file for the "Departmental Request for Candidacy" and enroll in their culminating project classes, ART 298A and ART 298B.

Additional information regarding advancement to candidacy is available in the Art & Art History Department Office.

## MFA - Art Completing Requirements

1. General Requirements: The MFA - Art program requires a minimum of 60 units of approved courses completed after admission to classified status in the program, of which at least 30 units must be in courses at the 200 level. Electives to complete the 60 units may be drawn from approved 100 and 200 level courses. The program also requires the student to participate in regularly scheduled departmental activities such as studio visits by faculty, first-semester review, first-year review, and Advancement to Candidacy reviews.
2. Required Courses: see below.
3. All students must meet the university's graduation writing assessment requirement.
4. MFA - Art Project: The culmination of the degree is the MFA - Art culminating project which must demonstrate the professional level of the candidate's accomplishment. After admission to candidacy the culminating project will be developed under the guidance of the candidate's MFA - ART project committee chair with the assistance of the project committee. Upon the committee's prior approval of the completed work, projects will be appropriately exhibited in accordance with departmental requirements.

All candidates must also submit to the Department of Art and Art History a satisfactory report of the project, following the department's approved format. MFA project reports will document the creative project and the creative process and context for that project with color images that illustrate each work in the project. The project report and the image record (in the case of studio projects) must be approved by the candidate's culminating project committee and by the art graduate advisor before the degree may be awarded.

1. Final Examination: The candidate must successfully complete an oral examination based on the area of the MFA - Art culminating project.
2. The application for graduation form must be filed with the university Graduate Admissions and Program Evaluations (GAPE) according to the posted deadline during the semester prior to completion of degree requirements.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (60 units)

### Graduate Seminars and Critiques (6 units)

Graduate Seminars and Critiques in Area of Concentration

- ART 281 - Interdisciplinary Critique Seminar 3 unit(s)

### Complete One Course From:

- ART 210 - Seminar in Digital Media Art 3 unit(s)

- ART 281 - Interdisciplinary Critique Seminar 3 *unit(s)*

## Graduate Tutorials (6 units)

Graduate Tutorials in Area of Concentration

- ART 220 - Tutorials in Digital Media Art 3 *unit(s)*

## Seminars (6 units)

- ART 282A - Seminar in the Theory and Criticism of Contemporary Art 3 *unit(s)*
- ART 282B - Seminar in Contemporary Art 3 *unit(s)* (GWAR)

## Additional Course (3 units)

Choose one of the following:

- ART 174A - Museum and Gallery Operations 3 *unit(s)*
- ART 276 - Artists Teaching Art 3 *unit(s)*

## Upper Division Art History (6 units)

## Professional Writing Course (3 units)

- ART 200W - Professional Writing in Contemporary Art 3 *unit(s)* (GWAR)

## Electives (24 units)

## Special Study (3 units)

- ART 298A - MFA Special Study 3 *unit(s)*

## Culminating Experience (3 units)

- ART 298B - MFA Project 3 *unit(s)*

## Total Units Required (60 units)

# Art, Photography Concentration, MFA

## Step I. Admission to MFA Classified Standing

Applicants must meet university requirements for admission to classified standing as outlined in this catalog. In addition, they must meet the following requirements:

1. Demonstrated interest in the area of study by a professional portfolio. The equivalent to a Bachelor of Fine Art (BFA) degree in the applicant's designated area of graduate emphasis is recommended. At least 6 upper division units in art history are required.
2. Successful completion of the application procedure for the MFA Admission Review. During the MFA Admission Review, appropriate materials documenting the applicant's creative work are examined by the art faculty to determine whether the quality of the work meets the standards expected for MFA graduate work. Applicants should submit copies of their creative materials for the MFA Admission Review; applicants should not submit their original materials unless requested to do so by the faculty. Applicants who pass the review and who meet minimum school and university requirements are admitted to classified standing for the following semester.

Applicants for the MFA Admission Review will be considered only if the review instructions have been carefully followed and all requested materials (including official transcripts) are supplied. For details, email or call the Department of Art and Art History at [art@sjsu.edu](mailto:art@sjsu.edu) or 408-924-4320. The deadline for application to the departmental review is the second Friday in January each year; application to this departmental review should not be confused with application to SJSU which is also required prior to the university's deadline.

## Admission to Conditionally Classified Status

Applicants who meet the University's minimum requirements for graduate admission and whose creative work, as examined during the MFA Admission Review, shows promise but is not supported by traditional undergraduate preparation in Art may be admitted to conditionally classified status and provided with a list of requirements to be addressed as soon as they enroll. They will be advanced to classified status when the art graduate advisor certifies all appropriate requirements for classified standing have been satisfied. Applicants who have completed an MA - Art degree must meet all prerequisites and requirements for the MFA - Art degree program.

## MFA - Art Admission to Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA - Art program and is thus eligible to enroll in ART 298A - MFA Special Study and ART 298B - MFA Project. In order to attain candidacy, the student must meet the university requirements for admission to candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluation website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the student must:

1. Formalize their MFA project committee by obtaining the signatures of at least three university faculty members (two must be members of the art faculty) to serve as members of the student's committee. A regular art faculty member who teaches in the student's major area of emphasis must serve as chair. This committee must approve the student's proposed program of study for the MFA - Art degree no later than one month prior to the end of the semester preceding the one in which the final project is created.
2. The student must submit a proposed program of study conforming to university and school requirements on the "Departmental Request for Candidacy" form obtained from Graduate Admissions and Program Evaluations and filed according to university deadlines. The proposed program of study must be approved by the art graduate committee and the College of Graduate Studies before the student may be considered for the MFA - Art.
3. Pass the Advancement to Candidacy (ATC) Review. This is an exhibition of original work which can be scheduled during any semester in one of the department's student galleries. Students must obtain signatures of two faculty members willing to serve on their culminating project committee, including at least one faculty member teaching in the designated area of emphasis, in order to apply to the ATC Review. Passing the review is necessary before the student may file for the "Departmental Request for Candidacy" and enroll in their culminating project classes, ART 298A and ART 298B.

Additional information regarding advancement to candidacy is available in the Art & Art History Department Office.

# MFA - Art Completing Requirements

1. General Requirements: The MFA - Art program requires a minimum of 60 units of approved courses completed after admission to classified status in the program, of which at least 30 units must be in courses at the 200 level. Electives to complete the 60 units may be drawn from approved 100 and 200 level courses. The program also requires the student to participate in regularly scheduled departmental activities such as studio visits by faculty, first-semester review, first-year review, and Advancement to Candidacy reviews.
2. Required Courses: see below.
3. All students must meet the university's graduation writing assessment requirement.
4. MFA - Art Project: The culmination of the degree is the MFA - Art culminating project which must demonstrate the professional level of the candidate's accomplishment. After admission to candidacy the culminating project will be developed under the guidance of the candidate's MFA - ART project committee chair with the assistance of the project committee. Upon the committee's prior approval of the completed work, projects will be appropriately exhibited in accordance with departmental requirements.

All candidates must also submit to the Department of Art and Art History a satisfactory report of the project, following the department's approved format. MFA project reports will document the creative project and the creative process and context for that project with color images that illustrate each work in the project. The project report and the image record (in the case of studio projects) must be approved by the candidate's culminating project committee and by the art graduate advisor before the degree may be awarded.

1. Final Examination: The candidate must successfully complete an oral examination based on the area of the MFA - Art culminating project.
2. The application for graduation form must be filed with the university Graduate Admissions and Program Evaluations (GAPE) according to the posted deadline during the semester prior to completion of degree requirements.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (60 units)

#### Graduate Seminars and Critiques (18 units)

Graduate Seminars and Critiques in Area of Concentration

- ART 281 - Interdisciplinary Critique Seminar 3 unit(s)
- ART 208 - Graduate Photography Critique 3 unit(s) (ART 208 must be taken 5 times.)

#### Graduate Tutorials (6 units)

Graduate Tutorials in Area of Concentration

- ART 222 - Tutorials in Photography 3 unit(s)

#### Seminars (6 units)

- ART 282A - Seminar in the Theory and Criticism of Contemporary Art 3 unit(s)

- ART 282B - Seminar in Contemporary Art 3 *unit(s)* (GWAR)

### Additional Course (3 units)

Complete one course from:

- ART 174A - Museum and Gallery Operations 3 *unit(s)*
- ART 276 - Artists Teaching Art 3 *unit(s)*

### Upper Division Art History (6 units)

### Professional Writing Course (3 units)

- ART 200W - Professional Writing in Contemporary Art 3 *unit(s)* (GWAR)

### Electives (12 units)

### Special Study (3 units)

- ART 298A - MFA Special Study 3 *unit(s)*

### Culminating Experience (3 units)

- ART 298B - MFA Project 3 *unit(s)*

### Total Units Required (60 units)

## Art, Pictorial Art Concentration, MFA

## Step I. Admission to MFA Classified Standing

Applicants must meet university requirements for admission to classified standing as outlined in this catalog. In addition, they must meet the following requirements:

1. Demonstrated interest in the area of study by a professional portfolio. The equivalent to a Bachelor of Fine Art (BFA) degree in the applicant's designated area of graduate emphasis is recommended. At least 6 upper division units in art history are required.
2. Successful completion of the application procedure for the MFA Admission Review. During the MFA Admission Review, appropriate materials documenting the applicant's creative work are examined by the art faculty to determine whether the quality of the work meets the standards expected for MFA graduate work. Applicants should submit copies of their creative materials for the MFA Admission Review; applicants should not submit their original materials unless requested to do so by the faculty. Applicants who pass the review and who meet minimum school and university requirements are admitted to classified standing for the following semester.

Applicants for the MFA Admission Review will be considered only if the review instructions have been carefully followed and all requested materials (including official transcripts) are supplied. For details, email or call the Department of Art and Art History at [art@sjsu.edu](mailto:art@sjsu.edu) or 408-924-4320. The deadline for application to the departmental

review is the second Friday in January each year; application to this departmental review should not be confused with application to SJSU which is also required prior to the university's deadline.

## Admission to Conditionally Classified Status

Applicants who meet the University's minimum requirements for graduate admission and whose creative work, as examined during the MFA Admission Review, shows promise but is not supported by traditional undergraduate preparation in Art may be admitted to conditionally classified status and provided with a list of requirements to be addressed as soon as they enroll. They will be advanced to classified status when the art graduate advisor certifies all appropriate requirements for classified standing have been satisfied. Applicants who have completed an MA - Art degree must meet all prerequisites and requirements for the MFA - Art degree program.

## MFA - Art Admission to Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA - Art program and is thus eligible to enroll in ART 298A - MFA Special Study and ART 298B - MFA Project. In order to attain candidacy, the student must meet the university requirements for admission to candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluation website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the student must:

1. Formalize their MFA project committee by obtaining the signatures of at least three university faculty members (two must be members of the art faculty) to serve as members of the student's committee. A regular art faculty member who teaches in the student's major area of emphasis must serve as chair. This committee must approve the student's proposed program of study for the MFA - Art degree no later than one month prior to the end of the semester preceding the one in which the final project is created.
2. The student must submit a proposed program of study conforming to university and school requirements on the "Departmental Request for Candidacy" form obtained from Graduate Admissions and Program Evaluations and filed according to university deadlines. The proposed program of study must be approved by the art graduate committee and the College of Graduate Studies before the student may be considered for the MFA - Art.
3. Pass the Advancement to Candidacy (ATC) Review. This is an exhibition of original work which can be scheduled during any semester in one of the department's student galleries. Students must obtain signatures of two faculty members willing to serve on their culminating project committee, including at least one faculty member teaching in the designated area of emphasis, in order to apply to the ATC Review. Passing the review is necessary before the student may file for the "Departmental Request for Candidacy" and enroll in their culminating project classes, ART 298A and ART 298B.

Additional information regarding advancement to candidacy is available in the Art & Art History Department Office.

## MFA - Art Completing Requirements

1. General Requirements: The MFA - Art program requires a minimum of 60 units of approved courses completed after admission to classified status in the program, of which at least 30 units must be in courses at the 200 level. Electives to complete the 60 units may be drawn from approved 100 and 200 level courses. The program also requires the student to participate in regularly scheduled departmental activities such as studio visits by faculty, first-semester review, first-year review, and Advancement to Candidacy reviews.
2. Required Courses: see below.
3. All students must meet the university's graduation writing assessment requirement.

4. MFA - Art Project: The culmination of the degree is the MFA - Art culminating project which must demonstrate the professional level of the candidate's accomplishment. After admission to candidacy the culminating project will be developed under the guidance of the candidate's MFA - ART project committee chair with the assistance of the project committee. Upon the committee's prior approval of the completed work, projects will be appropriately exhibited in accordance with departmental requirements.

All candidates must also submit to the Department of Art and Art History a satisfactory report of the project, following the department's approved format. MFA project reports will document the creative project and the creative process and context for that project with color images that illustrate each work in the project. The project report and the image record (in the case of studio projects) must be approved by the candidate's culminating project committee and by the art graduate advisor before the degree may be awarded.

1. Final Examination: The candidate must successfully complete an oral examination based on the area of the MFA - Art culminating project.
2. The application for graduation form must be filed with the university Graduate Admissions and Program Evaluations (GAPE) according to the posted deadline during the semester prior to completion of degree requirements.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (60 units)

#### Graduate Seminars and Critiques (6 units)

Graduate Seminars and Critiques in Area of Concentration

- ART 281 - Interdisciplinary Critique Seminar 3 *unit(s)*

#### Complete One Course From:

- ART 281 - Interdisciplinary Critique Seminar 3 *unit(s)*

#### Graduate Tutorials (6 units)

Graduate Tutorials in Area of Concentration

- ART 217 - Tutorials in Pictorial Arts 3 *unit(s)*

#### Seminars (6 units)

- ART 282A - Seminar in the Theory and Criticism of Contemporary Art 3 *unit(s)*
- ART 282B - Seminar in Contemporary Art 3 *unit(s)* (GWAR)

#### Additional Course (3 units)

Complete One Course From:

- ART 174A - Museum and Gallery Operations 3 *unit(s)*

- ART 276 - Artists Teaching Art 3 *unit(s)*

### Upper Division Art History (6 units)

### Professional Writing Course (3 units)

- ART 200W - Professional Writing in Contemporary Art 3 *unit(s)* (GWAR)

### Electives (24 units)

### Special Study (3 units)

- ART 298A - MFA Special Study 3 *unit(s)*

### Culminating Experience (3 units)

- ART 298B - MFA Project 3 *unit(s)*

### Total Units Required (60 units)

## Art, Spatial Art Concentration, MFA

# Step I. Admission to MFA Classified Standing

Applicants must meet university requirements for admission to classified standing as outlined in this catalog. In addition, they must meet the following requirements:

1. Demonstrated interest in the area of study by a professional portfolio. The equivalent to a Bachelor of Fine Art (BFA) degree in the applicant's designated area of graduate emphasis is recommended. At least 6 upper division units in art history are required.
2. Successful completion of the application procedure for the MFA Admission Review. During the MFA Admission Review, appropriate materials documenting the applicant's creative work are examined by the art faculty to determine whether the quality of the work meets the standards expected for MFA graduate work. Applicants should submit copies of their creative materials for the MFA Admission Review; applicants should not submit their original materials unless requested to do so by the faculty. Applicants who pass the review and who meet minimum school and university requirements are admitted to classified standing for the following semester.

Applicants for the MFA Admission Review will be considered only if the review instructions have been carefully followed and all requested materials (including official transcripts) are supplied. For details, email or call the Department of Art and Art History at [art@sjsu.edu](mailto:art@sjsu.edu) or 408-924-4320. The deadline for application to the departmental review is the second Friday in January each year; application to this departmental review should not be confused with application to SJSU which is also required prior to the university's deadline.

## Admission to Conditionally Classified Status



Applicants who meet the University's minimum requirements for graduate admission and whose creative work, as examined during the MFA Admission Review, shows promise but is not supported by traditional undergraduate preparation in Art may be admitted to conditionally classified status and provided with a list of requirements to be addressed as soon as they enroll. They will be advanced to classified status when the art graduate advisor certifies all appropriate requirements for classified standing have been satisfied. Applicants who have completed an MA - Art degree must meet all prerequisites and requirements for the MFA - Art degree program.

## MFA - Art Admission to Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA - Art program and is thus eligible to enroll in ART 298A - MFA Special Study and ART 298B - MFA Project. In order to attain candidacy, the student must meet the university requirements for admission to candidacy as outlined in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluation website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, the student must:

1. Formalize their MFA project committee by obtaining the signatures of at least three university faculty members (two must be members of the art faculty) to serve as members of the student's committee. A regular art faculty member who teaches in the student's major area of emphasis must serve as chair. This committee must approve the student's proposed program of study for the MFA - Art degree no later than one month prior to the end of the semester preceding the one in which the final project is created.
2. The student must submit a proposed program of study conforming to university and school requirements on the "Departmental Request for Candidacy" form obtained from Graduate Admissions and Program Evaluations and filed according to university deadlines. The proposed program of study must be approved by the art graduate committee and the College of Graduate Studies before the student may be considered for the MFA - Art.
3. Pass the Advancement to Candidacy (ATC) Review. This is an exhibition of original work which can be scheduled during any semester in one of the department's student galleries. Students must obtain signatures of two faculty members willing to serve on their culminating project committee, including at least one faculty member teaching in the designated area of emphasis, in order to apply to the ATC Review. Passing the review is necessary before the student may file for the "Departmental Request for Candidacy" and enroll in their culminating project classes, ART 298A and ART 298B.

Additional information regarding advancement to candidacy is available in the Art & Art History Department Office.

## MFA - Art Completing Requirements

1. General Requirements: The MFA - Art program requires a minimum of 60 units of approved courses completed after admission to classified status in the program, of which at least 30 units must be in courses at the 200 level. Electives to complete the 60 units may be drawn from approved 100 and 200 level courses. The program also requires the student to participate in regularly scheduled departmental activities such as studio visits by faculty, first-semester review, first-year review, and Advancement to Candidacy reviews.
2. Required Courses: see below.
3. All students must meet the university's graduation writing assessment requirement.
4. MFA - Art Project: The culmination of the degree is the MFA - Art culminating project which must demonstrate the professional level of the candidate's accomplishment. After admission to candidacy the culminating project will be developed under the guidance of the candidate's MFA - ART project committee chair with the assistance of the project committee. Upon the committee's prior approval of the completed work, projects will be appropriately exhibited in accordance with departmental requirements.

All candidates must also submit to the Department of Art and Art History a satisfactory report of the project, following the department's approved format. MFA project reports will document the creative project and the creative process and context for that project with color images that illustrate each work in the project. The project report and the image

record (in the case of studio projects) must be approved by the candidate's culminating project committee and by the art graduate advisor before the degree may be awarded.

1. Final Examination: The candidate must successfully complete an oral examination based on the area of the MFA - Art culminating project.
2. The application for graduation form must be filed with the university Graduate Admissions and Program Evaluations (GAPE) according to the posted deadline during the semester prior to completion of degree requirements.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (60 units)

#### Graduate Seminars and Critiques (6 units)

Graduate Seminars and Critiques in Area of Concentration

- ART 281 - Interdisciplinary Critique Seminar 3 *unit(s)*

#### Complete One Course From:

- ART 281 - Interdisciplinary Critique Seminar 3 *unit(s)*

#### Graduate Tutorials (6 units)

Graduate Tutorials in Area of Concentration

- ART 219 - Tutorials in Spatial Art 3 *unit(s)*

#### Seminars (6 units)

- ART 282A - Seminar in the Theory and Criticism of Contemporary Art 3 *unit(s)*
- ART 282B - Seminar in Contemporary Art 3 *unit(s)* (GWAR)

#### Additional Course (3 units)

Complete one course from:

- ART 174A - Museum and Gallery Operations 3 *unit(s)*
- ART 276 - Artists Teaching Art 3 *unit(s)*

#### Upper Division Art History (6 units)

#### Professional Writing Course (3 units)

- ART 200W - Professional Writing in Contemporary Art 3 *unit(s)* (GWAR)

## Electives (24 units)

## Special Study (3 units)

- ART 298A - MFA Special Study 3 *unit(s)*

## Culminating Experience (3 units)

- ART 298B - MFA Project 3 *unit(s)*

## Total Units Required (60 units)

# Minor

## Architectural Studies Minor

The Minor in Architectural Studies provides essential preparation for students who plan to apply for graduate study in Architecture.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (9 units)

### Complete One Course From:

- MATH 19 - Precalculus 5 *unit(s)* (B4)
- MATH 30 - Calculus I 3 *unit(s)* (B4)

### Complete One Course From:

- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)

### Complete One Course From:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)

## Minor Requirements (12 units)

## Art History Requirement (6 units)

Complete two courses from:

- ARTH 160 - Modern Architecture 3 unit(s)
- ARTH 161 - Contemporary Architecture 3 unit(s)
- ARTH 162 - California Architecture 3 unit(s)
- ARTH 163 - Twentieth Century Urban Design 3 unit(s)
- ARTH 192C - History of Interior Design 3 unit(s)

## Interior Design Requirements (3 units)

Complete one course from:

- DSIT 5 - Introduction of Interior Design and Architecture 3 unit(s)
- DSIT 10 - Sketching, Drawing + Modeling 3 unit(s)
- DSIT 29 - Design Process 3 unit(s)
- DSIT 34 - Interior Architecture Foundation Studio 3 unit(s)
- DSIT 98 - Architectural Forum 3 unit(s)
- DSIT 103 - Interior Architecture Conceptual Design Studio 3 unit(s)

## Art Requirements (3 units)

*3 units must include a second studio course, either from the Interior Design requirement or from the following.*

- ART 13 - Three-Dimensional Design Concepts 3 unit(s)
- ART 24 - Drawing I 3 unit(s)
- ART 26 - Drawing II 3 unit(s)
- ART 68 - Beginning Sculpture: Object & Concept 3 unit(s)
- ART 172 - Intermediate Sculpture: System/Structure 3 unit(s)
- ART 173 - Topics in Installation Art 3 unit(s)

## Total Units Required (21 units)

## Art Education Minor

The Minor in Art Education helps to prepare students who plan to apply to credential programs in Art without first completing the BA Art/Studio Practice, Concentration in Teacher Preparation.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (24 units)

## Core Requirements (21 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 138 - Elementary Art Methods 3 *unit(s)*
- ART 139 - Teaching Diversity through Art 3 *unit(s)*
- ARED 150 - Field Experience in the Arts 3 *unit(s)*

### Complete One Course From:

- PHIL 66 - Introduction to Aesthetics 3 *unit(s)* (C1)
- PHIL 106 - Philosophy of Art 3 *unit(s)*

### Upper Division Art History (3 units)

Complete one course from:

- ARTH 182A - Art of the Americas 3 *unit(s)*
- ARTH 183A - Art of Egypt and Mesopotamia 3 *unit(s)*
- ARTH 183C - Art of Islam 13th-19th Century 3 *unit(s)*
- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)
- ARTH 194A - Art of China 3 *unit(s)*
- ARTH 195 - Art of Japan 3 *unit(s)*

### Total Units Required (24 units)

## Art History and Visual Culture Minor

The minor in Art History and Visual Culture major enriches the lives of its students by providing an in-depth knowledge of cultural traditions and creative accomplishment, and by providing the skills necessary for applying that knowledge in the service of our multicultural society.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Preparation (6 units)

Complete 6 units from:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

### Minor Requirements (12 units)

Twelve units of art history course work total. Must include 9 units of upper division art history courses. Of these, six units must be completed at San José State University.

## Total Units Required (18 units)

### Ceramic Art Minor

The Minor in Ceramic Art provides students with a range of techniques and skills for the production of ceramic art. Students will be exposed to and research historical and contemporary models of ceramic art. Students will also explore advanced sculptural methods for realizing ceramic art, including hand-built, wheel-thrown, and 3D printed forms.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Preparation (6 units)

- ART 46 - Introduction to Ceramics 3 *unit(s)*

Complete one course from the following:

- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*

#### Minor Requirements (12 units)

Complete 12 units from the following repeatable courses:

- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)* \*
- ART 133 - Topics in Ceramic Sculpture 3 *unit(s)* \*
- ART 134 - Topics in Advanced Ceramics 3 *unit(s)* \*
- ART 137 - Figure Modeling 3 *unit(s)*

\*Courses repeatable for credit when topics change, up to 9 units.

## Total Units Required (18 units)

### Digital Media Art Minor

The Minor in Digital Media Art allows students to learn specialized skills interactive digital media and 3D digital fabrication for application in a variety of creative projects. Digital Media Art courses emphasize concept-development and creative innovation, building on technical skills in web coding, virtual reality, digital fabrication, and interactive installations. Students graduating with a Minor in Digital Media Art will be conversant in the historical, theoretical and technological aspects of digital media across an array of platforms. For Art majors in other media (eg. Pictorial Art or Spatial Art), the Minor in Digital Media Art facilitates the acquisition of an interdisciplinary art practice incorporating digital technologies. For non-Art majors, it develops both technical and conceptual skills in computer and web-based creative work. The Minor in Digital Media Art allows students to learn the following media and technologies: creative

web development; computer-based gaming; digital fabrication of 3-D objects; interactive installations using a variety of digital and screen/projection technologies; software coding for artistic purposes; and motion capture.

### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## **Minor Preparation (6 units)**

- ART 74 - Introduction to Digital Media 3 *unit(s)*
- ART 75 - Introduction to Digital Video Art 3 *unit(s)*

## **Minor Requirements (12 units)**

- ART 101 - Digital Media Art 3 *unit(s)*
- ART 105 - Advanced Digital Video 3 *unit(s)*

## **Specialized Topics in Digital Media Art (6 units)**

Complete two courses from. The courses below allow students to explore a range of specialized topics in Digital Media Art.

- ART 102 - 3D Modeling and Printing 3 *unit(s)*
- ART 103 - Art as System 3 *unit(s)*
- ART 106 - Topics in Human Machine Interface 3 *unit(s)*
- ART 107 - Advanced Projects in Digital Media Art 3 *unit(s)*
- ART 108 - Introduction to Game Studies 3 *unit(s)*
- ART 109 - Web Development in HTML, CSS and JavaScript 3 *unit(s)*
- ART 193 - Digital Materials 3 *unit(s)*

## **Total Units Required (18 units)**

# **Photography Minor**

The Minor in Photography allows students to develop skills that will add valuable breadth and career flexibility to their primary degree.

### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## **Minor Requirements (21 units)**

- PHOT 40 - Beginning Photography 3 *unit(s)*
- PHOT 110 - Black and White Photography 3 *unit(s)*
- PHOT 112 - Color Photography 3 *unit(s)*

- PHOT 120 - Image and Idea 3 *unit(s)*
- PHOT 121 - Introduction to Studio Lighting 3 *unit(s)*

### Complete One Course From:

- PHOT 113 - Alternative Photo Media 3 *unit(s)*
- PHOT 114 - Advanced Black and White Photography 3 *unit(s)*
- PHOT 115 - Intermediate Digital Imaging 3 *unit(s)*
- PHOT 122 - Advanced Studio Lighting 3 *unit(s)*
- PHOT 123 - Photography as Illustration 3 *unit(s)*
- PHOT 197 - Senior Project Photography 3 *unit(s)*

### Complete One Course From:

- PHOT 126 - History of Photography 3 *unit(s)*
- PHOT 129 - Professional Practices in Photography 3 *unit(s)*

### Total Units Required (21 units)

## Pictorial Art Minor

The Minor in Pictorial Art allows students to develop skills in visual creativity and two-dimensional art practice that will add valuable breadth and career flexibility to their primary degree.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Preparation for the Minor (9 units)

- ART 12 - Two-Dimensional Design and Color Concepts 3 *unit(s)*
- ART 24 - Drawing I 3 *unit(s)*
- ART 26 - Drawing II 3 *unit(s)*

### Minor Requirements (12 units)

Complete four courses from the following. Twelve units of studio art work total. Must include 9 units of upper division studio art courses, 9 units of which are taken at San José State University.

- ART 25 - Expressive Drawing 3 *unit(s)*
- ART 151 - Topics in Screen-Printing 3 *unit(s)*
- ART 152 - Topics in Lithography 3 *unit(s)*
- ART 153 - Topics in Intaglio Processes 3 *unit(s)*
- ART 155 - Topics in Monotype 3 *unit(s)*
- ART 158 - Topics in Drawing III 3 *unit(s)*



- ART 162 - Watercolor 3 *unit(s)*
- ART 164A - Intermediate Painting 3 *unit(s)*
- ART 164B - Intermediate Painting II 3 *unit(s)*
- ART 165 - Topics in Figure Painting 3 *unit(s)*
- ART 166 - Topics in Advanced Painting 3 *unit(s)*

## Total Units Required (21 units)

## Sculpture Minor

The Minor in Sculpture allows students to develop skills in visual creativity and threedimensional art practice that will add valuable breadth and career flexibility to their primary degree. Sculpture courses emphasize concept-development and cultural critique in addition to technical skill-building. Students graduating with a Minor in Sculpture will be conversant in the historical, theoretical and practical aspects of threedimensional artmaking. For Art majors in other media (eg. Pictorial Art or Photography), the Minor in Sculpture facilitates the acquisition of an interdisciplinary art practice. For non-Art majors, it develops both manual and conceptual capacities for three-dimensional expression. The Minor in Sculpture allows students to build skills in the following: woodworking; glass blowing and casting; jewelry and small metals; moldmaking and casting in bronze, aluminum and other materials; welding; installation art; figure modeling; and mixed-media sculpture. Student who are specifically interested in ceramic media should consider the Ceramic Art Minor instead.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (6 units)

- ART 13 - Three-Dimensional Design Concepts 3 *unit(s)*
- ART 68 - Beginning Sculpture: Object & Concept 3 *unit(s)*

## Minor Requirements (12 units)

Complete four courses from the following. Twelve units of studio art work total. Must include 9 units of upper division studio art courses, 9 units of which are taken at San José State University.

- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 135 - Topics in Moldmaking for Artists 3 *unit(s)*
- ART 137 - Figure Modeling 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ART 170 - Topics in Fabricated Sculpture 3 *unit(s)*
- ART 172 - Intermediate Sculpture: System/Structure 3 *unit(s)*
- ART 173 - Topics in Installation Art 3 *unit(s)*

## Total Units Required (18 units)

### Studio Art Minor

The Minor in Studio Art allows students to develop skills that will add valuable breadth and career flexibility to their primary degree.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

### Minor Support (6 units)

Lower division studio art courses

### Core Courses (12 units)

Twelve units of studio art work total. Must include 9 units of upper division studio art courses, 6 units of which are taken at San Jose State University.

## Total Units Required (18 units)

#### *ARED 150 - Field Experience in the Arts*

3 unit(s)

Provides opportunities for those considering teaching, K-12 levels, to interact with outstanding teachers of the arts in the region through structured field experiences in classrooms, reflective writing, community service, and weekly discussion in a seminar setting.

**Prerequisite(s):** ART 138 or ART 139, upper division standing, or instructor consent.

**Grading:** Graded

#### *ARED 184Y - Student Teaching II - Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

**Prerequisite(s):** Major and Education Department joint approval.

**Grading:** Credit/No Credit

#### *ARED 184Z - Student Teaching III - Classroom Teaching*

4-6 unit(s)

See ARED 184Y for course description.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*ARED 238 - Principles of Art Education*

*3 unit(s)*

This course is designed to equip prospective art educators with the knowledge, skills, and strategies to effectively organize and implement sequential art instruction at the secondary level with an emphasis on Art Teaching Methods and Art Curriculum Development.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*ARED 365 - Field Experience Seminar in Art Education*

*1 unit(s)*

This companion to the Phase II/III student teaching experience in the Single Subject Credential Program provides a forum for discussing field experiences and prepared candidates for the program's capstone assessment: The performance Assessment for California Teachers (PACT).

**Prerequisite(s):** EDSC 184X

**Corequisite(s):** ARED 184Z (except for candidates in the Single Subject Internship Program).

**Grading:** Credit/No Credit

*ART 1 - Professional Preparation in Art*

*1 unit(s)*

Introduction to skills and documents needed in preparation for professional careers in the arts; orientation to SJSU. Intended for BA/BFA ART majors and minors.

**Grading:** Credit/No Credit

*ART 2 - The Artist in Contemporary Culture*

*3 unit(s)*

Introduces art beginners to roles that artists play in contemporary culture. Critical readings and problem-solving; principles of form and theory and research applied to real-world situations confronted by contemporary artists. Orientation to SJSU.

**Grading:** Graded

*ART 3 - Medium and Message*

*3 unit(s)*

This undergraduate seminar introduces intermediate-level artists to a research and project-based approach to artmaking with a focus on contemporary, idea-appropriate mediums and methods. Orientation to SJSU.

**Grading:** Graded

*ART 12 - Two-Dimensional Design and Color Concepts*

3 unit(s)

Theories and applications of two-dimensional design and color in visual art and design. Studio practice.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

**Note(s):** ART 12 is treated as a repeat for students who have taken ANI 12.

*ART 13 - Three-Dimensional Design Concepts*

3 unit(s)

Theories and applications of three-dimensional form in visual art and design. Studio practice.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

*ART 14 - Color*

3 unit(s)

Attributes of color. Studio practice exploring theories and creative use of color in visual art and design.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

**Note(s):** ART 14 is treated as a repeat for students who have taken ANI 14.

*ART 24 - Drawing I*

3 unit(s)

Elements and principles of drawing. Studio practice emphasizing line, shape and light-dark used in visual art and design.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

**Note(s):** ART 24 is treated as a repeat for students who have taken ANI 24.

*ART 25 - Expressive Drawing*

3 unit(s)

Drawing concepts emphasizing creative expression. Studio practice with a variety of methods and materials.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 24.

**Grading:** Graded

*ART 26 - Drawing II*

3 unit(s)

Observation and depiction of volume and perspective.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 24.

**Grading:** Graded

*ART 39 - Multicultural Arts for Children*

3 unit(s)

Focus on teaching arts of many cultures, places and times to young people (preschool through high school).

*Misc/Lab: Lab 6 hours.*

**Grading:** Graded

*ART 46 - Introduction to Ceramics*

3 unit(s)

Studio work in ceramics; a survey of methods used by contemporary artists. Includes use of the potter's wheel, handbuilding techniques, clay preparation, glazing and firing for utilitarian and sculptural work.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

*ART 47 - Introduction to Metalsmithing*

3 unit(s)

Introduction to tools, materials and techniques for small scale metal work. Primer course for metalsmithing and jewelry.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

*ART 61 - Beginning Painting*

3 unit(s)

Studio practice in selected media. Specific content, materials and subject matter may vary with instructors.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 12 and ART 24

**Grading:** Graded

*ART 68 - Beginning Sculpture: Object & Concept*

3 unit(s)

Introduction to core sculptural media: woodworking, welding, mold-making, metal-casting and working with found objects. Emphasis on concept development and critical thinking.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 13 or instructor consent.

**Grading:** Graded

*ART 74 - Introduction to Digital Media*

3 unit(s)

Fundamental concepts and methods of Digital Media production. Introduction to visualization software applications and web presentation techniques.

*Misc/Lab: Activity 6 hours.*

**Grading:** Graded

*ART 75 - Introduction to Digital Video Art*

3 unit(s)

Introduction of the fundamental skills, software and techniques involved in the production of Digital Video. Critical discourse and contemporary art theories will be explored.

*Misc/Activity: 6 hours activity*

**Grading:** Graded

*ART 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ART 100W - Writing Workshop: Fine Arts*

3 unit(s)

Advanced writing course for fine art majors, based upon philosophical issues and current professional practice in art. Clear analytical and critical writing in examination of these topics.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level. Allowed Declared Majors: Art, Art History, Interior Design, Industrial Design, Graphic Design, Fine Arts.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*ART 101 - Digital Media Art*

3 unit(s)

Experimental applications in creative coding as an art practice. Focus includes programming interactivity, generative graphics, intro to data visualization and user interface and user experience strategies.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 74, ART 75 or instructor consent

**Grading:** Graded

*ART 102 - 3D Modeling and Printing*

3 unit(s)

Introduces experimental 3D methods with a focus on conceptual and creative processes using 3D modeling software and 3D printing technology while addressing contemporary uses for artistic production.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 75 or instructor consent.

**Grading:** Graded

*ART 103 - Art as System*

3 unit(s)

Experimental applications in the use of systems-based approach for art making. Focus on various CNC 3D printing/cutting methods, parametric art, CAD/CAM techniques, physical computing integration and collaborative art models.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** ART 75 and ART 101

**Grading:** Graded

*ART 104 - Interdisciplinary Seminar in Digital Media Art*

3 unit(s)

Investigation of theoretical topics in digital media art and analysis of contemporary technology research issues.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ART 105 - Advanced Digital Video*

3 unit(s)

Advanced exploration of digital video within the context of conceptual art practice. Focus on issues and applications of digital technology and critical thinking in art with specific focus on video, the Internet and alternative media applications.

*Misc/Lab: Lab 9 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 75 or permission of instructor.  
**Grading:** Graded

*ART 106 - Topics in Human Machine Interface*

*3 unit(s)*

Experimental applications in physical computing in art. Topics include computer-controlled sensors and actuators, the nature of the cyborg and interactive electronic interfaces for sculpture, environments and performance. Course is repeatable up to 6 units, when course topic changes.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 75 and ART 101 or permission of instructor.  
**Grading:** Graded

*ART 107 - Advanced Projects in Digital Media Art*

*3 unit(s)*

Advanced issues and applications of digital technology in art. Application of interactive technology in installation and performance. Emphasis on collaborative projects, user interaction, and experience. Course is repeatable up to 6 units.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 75 or permission of instructor.  
**Grading:** Graded

*ART 108 - Introduction to Game Studies*

*3 unit(s)*

Introduction to the systems, design, history, and cultural analysis of games with emphasis on critical studies, development, technological literacy, markets and impact on society.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*ART 109 - Web Development in HTML, CSS and JavaScript*

*3 unit(s)*

Tracing the emergence of networked, online, and screen-based contexts for the exhibition of new media art, course explores programming, tools and methodologies for the creation of websites, web applications and net-based digital media artworks. Students develop website architectures, user interfaces, style sheets, animation and web-optimized content using industry-standard tools and techniques. Development of a collaborative networked installation environment and/ or online gallery for the exhibition of culminating work.

**Prerequisite(s):** ART 75 and ART 101.  
**Grading:** Graded



*ART 110 - History and Theory of New Media*

3 unit(s)

The history of art and technology introducing contemporary critical theory and practice. Course will address digital visualization, simulation, interactive network technologies in the arts and speculate on the artistic implications of advances in engineering and science.

**Prerequisite(s):** ARTH 70B or ARTH 72 or instructor consent.

**Grading:** Graded

*ART 124 - Drawing 3*

3 unit(s)

Form and expression in Drawing. Emphasis may vary with instructor

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 24, ART 26

**Grading:** Graded

*ART 132 - Topics in Intermediate Ceramics*

3 unit(s)

Investigation of ceramic form and surface design with emphasis on the vessel. Development of skills on the potter's wheel and in glazing, kiln loading and firing. Included are raku, salt, earthenware, stoneware and porcelain. Repeatable for up to 9 units of credit when course topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 46 or instructor consent

**Grading:** Graded

*ART 133 - Topics in Ceramic Sculpture*

3 unit(s)

Focus on handbuilding and nontraditional techniques in clay and related media. Includes gallery and studio visits. Repeatable for Credit when topic changes, up to 3 times.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 13, ART 46 or instructor consent.

**Grading:** Graded

*ART 134 - Topics in Advanced Ceramics*

3 unit(s)

Focus on personal stylistic development, individual critiques and portfolio preparation. Includes gallery and studio visits. Repeatable for Credit when topic changes, up to 3 times.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 132 or ART 133.

**Grading:** Graded

*ART 135 - Topics in Moldmaking for Artists*

*3 unit(s)*

Introduction to moldmaking for upper division/graduate students. Course will include techniques for rubber molds for wax or plastic, molds for pressed clay, slip casting and waste molds. Course is repeatable for a total of 6 units.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 13 or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*ART 137 - Figure Modeling*

*3 unit(s)*

Representation of the human figure in three dimensions. Sculpting in clay from a live model. Course is repeatable for a total of 6 units.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 13 and ART 55 or instructor consent.

**Grading:** Graded

*ART 138 - Elementary Art Methods*

*3 unit(s)*

Equips prospective pre-K through high school educators with the basic knowledge, skills, and strategies to effectively organize and provide sequential art education. Emphasis on art teaching methods, art curriculum development, and art experiences.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ART 139 - Teaching Diversity through Art*

*3 unit(s)*

Strategies for teaching ideas of diversity through art in the preschool through high school classroom. Students deepen their understanding of culture and context and of why the arts matter.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** upper-division standing or instructor consent

**Grading:** Graded

*ART 140 - Topics in Glass*

*3 unit(s)*

Introduction to glass working techniques, chemistry, history and concept. Basic glass blowing, sand casting, slumping, fusing, cold working, stained glass and gluing techniques. Taught through a series of hands-on projects. Repeatable for up to 9 units when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*ART 141 - Topics in Advanced Glass*

*3 unit(s)*

Technical and esthetic aspects of glass for sculpture and design. Advanced blowing, kiln casting, mold making, lamp working, lathe techniques and surface treatments. Repeatable for up to 9 units of credit, when topic changes.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 140, ART 13 or instructor consent.

**Grading:** Graded

*ART 147 - Topics in Metalsmithing and Jewelry*

*3 unit(s)*

Technical and esthetic aspects of metalsmithing and jewelry design. Fabricating, surfacing, soldering, raising, forming and forging. Repeatable for 12 units of credit when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** ART 47.

**Grading:** Graded

*ART 149 - Topics in Jewelry and Small Sculpture*

*3 unit(s)*

Technical and esthetic aspects of metalcasting for small-scale sculpture and jewelry. Pattern materials, gating techniques, burnout procedure, vacuum casting, centrifugal casting and finishing. Repeatable for 12 units of credit when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper division standing or permission of instructor.

**Grading:** Graded

*ART 150 - Topics in Printmaking and Letterpress*

*3 unit(s)*

Introduction to relief printing, letterpress and related processes. Studio practice.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 12 and ART 24

**Grading:** Graded

*ART 151 - Topics in Screen-Printing*

*3 unit(s)*

Screen printing and related photographic processes. Studio practice. Repeatable for Credit when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*ART 152 - Topics in Lithography*

*3 unit(s)*

Studio practice. A comprehensive study of the practice of stone and metal plate lithography. Course is repeatable for a total of 9 units when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 61 (or equivalent).

**Grading:** Graded

*ART 153 - Topics in Intaglio Processes*

*3 unit(s)*

Studio practice towards an understanding of the methods, techniques and procedures necessary to make intaglio prints. Course is repeatable for a total of 9 units when course topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 61 (or equivalent)

**Grading:** Graded

*ART 155 - Topics in Monotype*

*3 unit(s)*

Studio practice. An investigation of the methods, techniques and syntax of the monotype and monoprint. Course is repeatable for total of 9 units when course topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 61 (or equivalent).

**Grading:** Graded

*ART 158 - Topics in Drawing III*

*3 unit(s)*

Form and expression in drawing. Selected media. Course Repeatable for up to 9 units of credit when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 25 or ART 26

**Grading:** Graded

*ART 159 - Advanced Life Drawing*

*3 unit(s)*

Course is repeatable for a total of 9 units.

*6 hours Activity.*

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** ART 24, ART 25 or ART 26.

**Grading:** Graded

*ART 162 - Watercolor*

*3 unit(s)*

Painting with various water base media.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 12 and ART 24.

**Grading:** Graded

*ART 164A - Intermediate Painting*

3 unit(s)

Emphasis may vary with instructor. Course is repeatable for a total of 6 units.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 61 (or equivalent).

**Grading:** Graded

*ART 164B - Intermediate Painting II*

3 unit(s)

Intermediate Painting II expands and builds on the concepts and skills introduced in ART 164A-Intermediate Painting I; with the goal of developing more complex content and process in preparation for Advanced Painting.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 61 and ART 164A or instructor consent

**Grading:** Graded

*ART 165 - Topics in Figure Painting*

3 unit(s)

Figure and portrait painting from the model. Repeatable for up to 9 units of credit when course topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 26 and ART 61.

**Grading:** Graded

*ART 166 - Topics in Advanced Painting*

3 unit(s)

Emphasis may vary with instructor. Repeatable for 9 units of credit when topic changes.

*Misc/Activity: 9 hours lab*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 61 ART 164A, ART 164B and ART 165 or equivalent, or instructor consent

**Grading:** Graded

*ART 168 - Topics in Woodworking*

3 unit(s)

Introduction to the physical structure of wood and to the design and construction of furniture and sculptural objects in wood. Also, an introduction to the historical use of wood joinery in man-made objects. Course is repeatable for 6 units of credit.

*Misc/Activity: 9 hours lab*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 13 or instructor consent.  
**Grading:** Graded

*ART 169 - Topics in Metal Sculpture*

*3 unit(s)*

Conception and creation of three-dimensional aesthetic form using metal techniques including casting, welding, fabrication and other forming processes. Repeatable for up to 9 units when topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 13.  
**Grading:** Graded

*ART 170 - Topics in Fabricated Sculpture*

*3 unit(s)*

Fabricated Sculpture includes welding training, a concise history of fabricated metal sculpture since 1945, and studio time wherein the student practices skills and executes three steel sculptures. Repeatable for up to 9 units of credit when course topic changes.

*Misc/Lab: Lab 6 hours.*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ART 13.  
**Grading:** Graded

*ART 171 - Advanced Sculpture*

*3 unit(s)*

Self expression and advanced techniques in sculpture. Emphasis will be placed on individual development, current directions and goals.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** 6 units of sculpture.  
**Grading:** Graded

*ART 172 - Intermediate Sculpture: System/Structure*

*3 unit(s)*

This is an intermediate-level sculpture class with a focus on contemporary materials and processes. Students will make sculptural responses to timely issues raised in course readings and lectures.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 68 or instructor consent.

**Grading:** Graded

*ART 173 - Topics in Installation Art*

*3 unit(s)*

Exploration of cross-disciplinary artmaking, with an emphasis on conceptual development and critical dialogue. Students make installation art and site-specific artworks using a variety of techniques and processes, including time-based media. Course can be repeated for up to 6 units when course topic changes.

*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 13 or instructor consent.

**Grading:** Graded

*ART 174A - Museum and Gallery Operations*

*3 unit(s)*

Theoretical and technical problems of gallery and museum work including administration, security and curatorship.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ART 174B - Internship: Museum and Gallery Operations*

*3 unit(s)*

Supervised internship in museum or gallery. Experience including installation, curating and administration. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 174A.

**Grading:** Credit/No Credit

*ART 175 - Special Topics in Studio Art*

*3 unit(s)*

Varying concepts, media or techniques. Emphasizing individual expression, professional ability and recent movements and directions in art.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** Upper division standing in art.

**Grading:** Graded

*ART 176 - Workshops in Studio Art*

*1 unit(s)*

Workshop introduction to specific studio art skills or techniques taught through a series of hands-on projects. Repeatable for up to 6 units when topic changes.



*Misc/Activity: 6 hours activity*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ART 177 - Professional & Business Practices*

*3 unit(s)*

An introduction to the ways and means necessary to build a career in the arts while successfully negotiating its challenges, this course will provide information on portfolio development and professional and business practices essential for the practicing artist.

**Prerequisite(s):** Upper division or graduate standing.

**Grading:** Graded

*ART 178 - Art Field Work*

*1-3 unit(s)*

Professional practice in a selected field.

**Prerequisite(s):** Application for assignment made preceding semester. Supervisor and department approval.

**Grading:** Credit/No Credit

*ART 179 - Special Problems in Art*

*3 unit(s)*

Individual study on a tutorial basis.

**Prerequisite(s):** Qualified seniors or graduates.

**Grading:** Credit/No Credit

*ART 180 - Individual Studies*

*1-3 unit(s)*

Special topics or projects by arrangement with instructor. Course is repeatable up to 4 units of credit toward graduation.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Majors or minors with Department of Art & Art History consent.

**Grading:** Credit/No Credit

*ART 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*ART 193 - Digital Materials*

3 unit(s)

Technical skills to facilitate the realization of projects conceptually rooted in an analysis of computational media and its relationship to the physical world. Introduction to video and computational outputs integrated with tangible presentation methods. Material survey, exhibition strategies, and introductory fabrication techniques that facilitate projects bridging computation, architecture, objects, and the body.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ART 74 and ART 75

**Grading:** Graded

*ART 195 - BFA Group Exhibition*

3 unit(s)

Student develop individual approaches, methodologies, and practices in the creation of art and participate in a final group show demonstrating professional competence in the students area of concentration. Participation in the final exhibition with the approval of the student's advisory committee is required.

**Prerequisite(s):** 30 units of upper division art, admission to the BFA program and ART 198, or ART 210 with advisor's approval.

**Grading:** Credit/No Credit

*ART 197 - BA Senior Project*

3 unit(s)

Creation of a studio art or design capstone project consisting of new work in media selected by student to be documented and presented to studio or design faculty.

**Prerequisite(s):** 15 units of upper division work in the major.

**Grading:** Credit/No Credit

*ART 198 - BFA Seminar*

3 unit(s)

Preparation for BFA project and postgraduate career planning, this course includes field trips, class discussions and studio visits with art professionals.

**Prerequisite(s):** Prior acceptance in the B.F.A. program.

**Grading:** Graded

*ART 199 - BFA Project*

3 unit(s)

A project demonstrating professional competence in area of concentration. A gallery exhibition with the approval of the student's advisory committee is required.

**Prerequisite(s):** 30 units of upper division art, admission to the BFA program and ART 198, or ART 178 with advisor's approval.

**Grading:** Credit/No Credit

*ART 200W - Professional Writing in Contemporary Art*

3 unit(s)

Graduate seminar focusing on issues and practices of writing about contemporary art, including artist statements, exhibition catalogs and art criticism.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Graduate Standing in Department of Art & Art History.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ART 208 - Graduate Photography Critique*

3 unit(s)

Professional practice in the discipline of fine art photography is multi faceted and complex. To embrace this diversity, Art 208 Graduate Photography Critique offers rotating topics that influence portfolio development, emphasize an ongoing critique of work, and build a healthy professional practice. Repeatably for up to 18 units of credit when course topic changes.

*Misc/Activity: 9 hours lab*

*Course may be repeated for credit for up to 18 units.*

**Prerequisite(s):** Classified status in art or instructor consent.

**Grading:** Graded

*ART 210 - Seminar in Digital Media Art*

3 unit(s)

Theoretical discourse involving art and information culture. Review and analysis of contemporary theory and critical literature. Emphasis on collaborative activities and art practice.

**Prerequisite(s):** Classified status in art or instructor consent.

**Grading:** Graded

*ART 217 - Tutorials in Pictorial Arts*

3 unit(s)

Individual projects in painting, drawing and printmaking supervised by an instructor.

**Prerequisite(s):** Classified or conditionally classified status in art and instructor consent.

**Grading:** Graded

*ART 219 - Tutorials in Spatial Art*

3 unit(s)

Individual projects in sculpture, installation, performance and other 3-D media supervised by an instructor.

**Prerequisite(s):** Classified or conditionally classified status in art and instructor consent.

**Grading:** Graded

*ART 220 - Tutorials in Digital Media Art*

3 unit(s)

Individual problems in selected area of research or practice.

**Prerequisite(s):** Classified status in art and instructor consent.

**Grading:** Graded

*ART 221 - Tutorials in Design*

3 unit(s)

Individual projects in specialized design areas supervised by an instructor.

**Prerequisite(s):** Classified or conditionally classified status in art and instructor consent.

**Grading:** Graded

*ART 222 - Tutorials in Photography*

3 unit(s)

Individual projects employing photographic media supervised by an instructor.

**Prerequisite(s):** Classified or conditionally classified status in art and instructor consent.

**Grading:** Graded

*ART 260 - Special Tutorials in Art*

3 unit(s)

Individual problems in a selected art area supervised by an instructor.

**Prerequisite(s):** Classified or conditionally classified status in art and instructor consent.

**Grading:** Credit/No Credit

*ART 276 - Artists Teaching Art*

3 unit(s)

Seminar will examine theoretical and practical issues of art education which relate to traditional institutions of higher learning as well as to other teaching opportunities in the community.

**Prerequisite(s):** Classified graduate status or instructor consent.

**Grading:** Graded

*ART 281 - Interdisciplinary Critique Seminar*

3 unit(s)

Interdisciplinary peer group critiques and discussion of individual student work. Repeatable for up to 9 units when topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Admission to the MFA in Art program.

**Grading:** Graded

*ART 282A - Seminar in the Theory and Criticism of Contemporary Art*

3 unit(s)

A historical approach to the thought of major critics and theoreticians of contemporary art.

**Prerequisite(s):** ARTH 191A and admission to classified MFA status in art or instructor consent.

**Grading:** Graded

*ART 282B - Seminar in Contemporary Art*

3 unit(s)

An examination of a particular theme in contemporary art theory. Repeatable for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ARTH 191A and admission to classified MFA status in art or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ART 297A - Master's Special Study*

3 unit(s)

Advanced individual research in an area closely related to the master's thesis, research or project. Course may be repeated for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Acceptance of qualifications for candidacy by Art Graduate Committee and permission of Thesis, Research or Project Committee chair.

**Grading:** Credit/No Credit

*ART 297B - Master's Project*

3 unit(s)

Advanced projects in Creative Expression.

**Prerequisite(s):** Admission to candidacy for the master's degree in art.

**Grading:** Credit/No Credit

*ART 298A - MFA Special Study*

3 unit(s)

Advanced individual research in an area closely related to the MFA in Art project.

**Prerequisite(s):** Admission to candidacy for the MFA in Art degree.

**Grading:** Mandatory CR/NC/RP

*ART 298B - MFA Project*

3 unit(s)

A creative project of professional caliber.

**Prerequisite(s):** Admission to candidacy for the MFA in Art degree.  
**Grading:** Mandatory CR/NC/RP

*ART 299 - Master's Thesis or Project*

3 unit(s)

Advanced problems in research. Course may be repeated for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Admission to candidacy for the master's degree in art.  
**Grading:** Mandatory CR/NC/RP

*ART 1290R - Culminating Experience Supervision*

1 unit(s)

This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

*Course may be repeated for credit for up to 20 units.*

**Prerequisite(s):** Existing RP grade in a graduate-level thesis or project course  
**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*ARTH 11 - Modern Art History*

3 unit(s)

Introductory survey of 20th and 21st century art, its history, and its contexts. Related developments in illustration, design, other forms of art production, and cultural institutions such as museums, galleries, publications also considered.

**Pre/Corequisite(s):** ART 12 or ART 13 or PHOT 40 or instructor consent.  
**Grading:** Graded

*ARTH 15 - Intro to Visual Culture*

3 unit(s)

Key ideas and debates pertaining to visual culture considered through interdisciplinary study of art and media as significant social forces.

*Satisfies C1: Arts*

**Grading:** Graded

*ARTH 70A - Art History, Prehistoric to Medieval*

3 unit(s)

Western painting, sculpture and architecture from Prehistoric times through the Middle Ages. Important art works of Egypt, Greece, Rome and Medieval Europe. GE Area C1

*Satisfies C1: Arts*

**Grading:** Graded

*ARTH 70B - Art History, Renaissance to Modern*

*3 unit(s)*

Western painting, sculpture and architecture from the Renaissance to the present. Masters of the Renaissance, Baroque, Rococo, Neo-Classic, Romantic and Modern periods, including Da Vinci, Michelangelo, Durer, Rembrandt, Vermeer, David, Delacroix and Monet.

*Satisfies C1: Arts*

**Grading:** Graded

*ARTH 70C - Arts of Asia*

*3 unit(s)*

Major trends in the art of China, India and Japan, as well as Southeast and Central Asia and Korea, from the Neolithic period to the twentieth century.

*Satisfies C1: Arts*

**Grading:** Graded

*ARTH 72 - Design in Society*

*3 unit(s)*

Considers the cultural role of design in addressing human needs in shaping the environment, in providing shelter, clothing, utilitarian objects, and transportation, in visual communication for political and entertainment purposes.

*Satisfies C1: Arts*

**Grading:** Graded

*ARTH 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*ARTH 101 - Introduction to Practice of Art History*

*3 unit(s)*

Introduction to practice of art history including visual analysis, research tools, and examination of professional options.

**Prerequisite(s):** Art History and Visual Culture major or instructor consent.

**Grading:** Graded

*ARTH 110 - History and Theory of New Media*

3 unit(s)

The history of art and technology introducing contemporary critical theory and practice. Course will address digital visualization, simulation, interactive network technologies in the arts and speculate on the artistic implications of advances in engineering and science.

**Prerequisite(s):** ARTH 70B or ARTH 72 or instructor consent.

**Grading:** Graded

*ARTH 126 - History of Photography*

3 unit(s)

Technical developments and aesthetic trends in photography traced from its invention in the nineteenth century to the present day. Slide presentations, discussions, field trips.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 127 - Photography, Film, and Architecture*

3 unit(s)

This course presents a closely contextualized examination of major photographers, architects and film-makers through their work and their interpretations of modern culture and its spaces. Lectures will cover developments in photography, film and architecture, as well as the changing relationship among these media and other domains visual culture.

**Prerequisite(s):** ARTH 70B or Instructor Consent

**Grading:** Graded

*ARTH 160 - Modern Architecture*

3 unit(s)

Development of modern architecture from the late 19th century to the present, including Richardson, Sullivan, Wright, Le Corbusier, the Bauhaus, Mies van der Rohe, Meier and Gehry.

**Prerequisite(s):** ARTH 70B, ARTH 72 or instructor consent.

**Grading:** Graded

*ARTH 161 - Contemporary Architecture*

3 unit(s)

History of contemporary architecture since 1945, covering major trends and issues in a global context; includes Louis Kahn, Frank Gehry and Zaha Hadid.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 162 - California Architecture*

3 unit(s)

History of architecture in California since 1700, covering major architectural developments in a national and transnational context; includes Bernard Maybeck, Richard Neutra and Morphosis.



**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 163 - Twentieth Century Urban Design*

3 unit(s)

History of urban design since 1900, covering theories and practices of urban design in the industrialized world; includes Camillo Sitte, Le Corbusier and Frank Lloyd Wright.

**Prerequisite(s):** ARTH 70B or URBP 151 or instructor consent.

**Grading:** Graded

*ARTH 174A - Museum and Gallery Operations*

3 unit(s)

Theoretical and technical problems of gallery and museum work including administration, security and curatorship.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ARTH 174B - Internship: Museum and Gallery Operations*

3 unit(s)

Supervised internship in museum or gallery. Experience including installation, curating and administration. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ART 174A.

**Grading:** Credit/No Credit

*ARTH 175 - Theories of Art History and Art Criticism*

3 unit(s)

The study of approaches used by professional art historians and critics. The focus will be on 20th century writers who helped shape the development of contemporary art history and criticism.

**Prerequisite(s):** Upper division standing, 6 units of ARTH 70A, ARTH 70B, and/or ARTH 70C or instructor consent.

**Grading:** Graded

*ARTH 176A - Graphic Design History and Theory*

3 unit(s)

The history of graphic design and typography with an emphasis on the 20th century. Define technological, historical and theoretical concerns and influences on individuals and movements in graphic design.

**Prerequisite(s):** ARTH 72, completion of Area Z, or instructor consent.

**Grading:** Graded

*ARTH 176B - Industrial Design in Society*

3 unit(s)

History of industrial design since 1900. Course covers practice and theories of major industrial designers and design movements in the context of social attitudes toward consumption, production, and aesthetics.

**Prerequisite(s):** ARTH 72 or instructor consent.

**Grading:** Graded

*ARTH 178 - Art History Field Work*

1-3 unit(s)

Professional practice in a selected field of Art History.

**Prerequisite(s):** Application for assignment made preceding semester. Supervisor and department approval.

**Grading:** Credit/No Credit

*ARTH 180 - Individual Studies in Art History*

1-4 unit(s)

Special topics or projects by arrangement with instructor. Course is repeatable up to 4 units of credit toward graduation.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Majors or minors with Department of Art & Art History consent.

**Grading:** Graded

*ARTH 181 - Special Topics in Art History*

3 unit(s)

In-depth analysis of a selected art historical topic.

**Prerequisite(s):** ARTH 70A and ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 182A - Art of the Americas*

3 unit(s)

A survey of architecture, ceramics, metalwork, sculpture, painting and textiles of North, South, and Meso American cultures.

**Prerequisite(s):** ARTH 70A or instructor consent.

**Grading:** Graded

*ARTH 182B - American Art*

3 unit(s)

From the Colonial Period to 1940. Social context of America.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ARTH 183A - Art of Egypt and Mesopotamia*

3 unit(s)

The Arts of Egypt, Sumer, Akkad, Babylonia, Assyria, Anatolia, Hittites, and Persia (Elamite to Sassanian).

**Prerequisite(s):** ARTH 70A or instructor consent.

**Grading:** Graded

*ARTH 183B - Art of Islam-Early Islam to the Seljuks*

3 unit(s)

Focus on the varied Islamic art and architecture from the 7th century to the 13th century, early Islamic period through the Seljuks.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ARTH 183C - Art of Islam 13th-19th Century*

3 unit(s)

This course will focus on the varied Islamic art and architecture from the 13th century to the 19th century; from Mongols through the Ottomans.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ARTH 185 - Art of the Classical World*

3 unit(s)

Focus on the ancient arts of Greece, Roman and Etruria from the 8th century BC through the 4th century AD. Major monuments: Parthenon, Altar of Zeus at Pergamon, Ara Pacis and Forum of Trajan.

**Prerequisite(s):** ARTH 70A or instructor consent.

**Grading:** Graded

*ARTH 186 - Medieval Art*

3 unit(s)

Introductory survey of art and architecture from from the end of the Western Roman Empire, circa 500 AD to the beginning of the Italian Renaissance, circa 1400 AD. Focuses on the meanings and uses of art and architecture within their specific historical and cultural contexts.

**Grading:** Graded

*ARTH 187A - Art of the Italian Renaissance, Fifteenth Century*

3 unit(s)

Early Renaissance art and architecture. Masaccio, Botticelli, Brunelleschi and Donatello.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 187B - Art of the Italian Renaissance, Sixteenth Century*

3 unit(s)

High Renaissance and Mannerism in Italy. Leonardo, Michelangelo, Raphael and Titian.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 187C - The Art of Renaissance Venice*

3 unit(s)

A study of Venetian art and its urban ideology, 11th through 18th century, emphasizing the great painters and architects of the Renaissance (Carpaccio, Bellini, Titian, Tintoretto and Veronese, Mauro Codussi, Sansovino and Palladio).

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 188A - Northern Renaissance Fourteenth and Fifteenth Centuries*

3 unit(s)

Survey of art of Netherlands, France and Bohemia from mid-fourteenth through fifteenth century. Principal artists covered include the Limbourg Brothers, Van Eyck, Van der Weyden, Memling and Fouquet. Emphasis on northern painting, manuscripts, tapestry traditions, iconography and social history of northern European art.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 188B - Northern Renaissance, Sixteenth Century*

3 unit(s)

Survey of fifteenth and sixteenth century art of Netherlands, France and Germany. Principal artists covered include Bosch, Durer, Grunewald, Holbein and Bruegel. Emphasis on northern painting, printmaking traditions, iconography, social history of northern European art.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 189A - Baroque Art and Architecture in Italy and France*

3 unit(s)

The art and architecture of Italy and France in the late 16th and 17th centuries. Broad trends and issues, artists such as Bernini, Caravaggio, the Carracci, Borromini, Poussin, Mansart.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 189B - Northern Baroque Art and Architecture*

3 unit(s)

Art and architecture of Spain, the Low Countries, Germany, Austria in the 17th and 18th centuries. Artists such as Velazquez, Rubens, Rembrandt, Vermeer and Goya.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 190A - Art of the Nineteenth Century*

3 unit(s)

Western Europe from Neoclassicism through Post-Impressionism including David, Delacroix, Goya, Manet, Monet, Cassatt, Cezanne, Van Gogh and Gauguin.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 190B - Early Modernist Art*

3 unit(s)

Critical investigation of modern art from the 1880's (Post Impressionism) to World War I with an emphasis on painting and sculpture with some attention paid to architecture, photography, printmaking and design.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 190C - 20th Century Art: from Dada to Pop*

3 unit(s)

Critical investigation of modernist art from World War I to the 1960s (from Dada to Pop art) with an emphasis on painting and sculpture but some attention paid to architecture, photography, printmaking and design.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 191A - Issues in Contemporary Art*

3 unit(s)

A critical investigation of a theme which bears on the arts from mid-century to the present, looking closely at major artists and trends in order to understand their philosophies, objectives, styles, and contexts. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ARTH 70B.

**Grading:** Graded

*ARTH 191B - Women in Art*

3 unit(s)

Contributions made to Western culture by women involved in the arts from the Middle Ages to the present and the influence on art of attitudes held about women.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*ARTH 191C - Contemporary Art in Mexico, the U.S., and Latin America*

3 unit(s)

Contemporary Art in Mexico, the U.S., and Latin America. Includes Mexican modernism, social movements of post-revolutionary Mexico (1910-1940), and works influenced by the Chicano Civil Rights Movement (El Movimiento) in the United States (1960s-1990s) up to the present day.

**Prerequisite(s):** ARTH 70B or completion of Area Z or instructor consent

**Grading:** Graded

*ARTH 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ARTH 192A - Modern Design*

3 unit(s)

History of design philosophy and practice from the Industrial Revolution to the present including Art Nouveau and Art Deco, the Bauhaus, International Style, Functionalism vs. Formalism, Post-Modern and Deconstructivism.

**Prerequisite(s):** ARTH 72, completion of Area Z, or instructor consent.

**Grading:** Graded

*ARTH 192C - History of Interior Design*

3 unit(s)

Survey of interior design through historical, political, social, economic, technological, and aesthetic factors that shape the built environment. Design will be analyzed formally and through parallel developments in the arts.

**Prerequisite(s):** ARTH 70B or ARTH 72, completion of Area Z, or instructor consent.

**Grading:** Graded

*ARTH 193A - Worlds of Art and Culture*

3 unit(s)

Focuses on the use of art images as primary sources for the study of cultural development in a globalized context and ways in which past cultures and their interactions influence the modern world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ARTH 193B - East Meets West in Art*

3 unit(s)

Comparative study of Eastern and Western art. Emphasis on cross-fertilization. Historical and cultural backgrounds. Includes lectures, discussions and presentations. Research or art project and paper required.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ARTH 194A - Art of China*

*3 unit(s)*

Architecture, sculpture and painting in China from prehistoric times to the Republic.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ARTH 195 - Art of Japan*

*3 unit(s)*

Architecture, sculpture and painting in Japan from prehistoric times to Edo era.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ARTH 196 - German Art, 1800-2000*

*3 unit(s)*

This course is an upper-division survey of historical figures, movements and developments in German art, architecture, aesthetics and design from the late Enlightenment to the present era.

**Prerequisite(s):** ARTH 70B or completion of Area Z or instructor consent

**Grading:** Graded

*ARTH 199 - Art History Capstone Seminar*

*3 unit(s)*

This seminar explores art history as an academic discipline. Topics include: discovering subfields within art history; constructing art historical arguments; and the methods and practices of art history.

**Prerequisite(s):** ARTH 70A or ARTH 70C; ARTH 70B; ARTH 100W

**Grading:** Graded

*ARTH 270 - Seminar in Ancient Art*

*3 unit(s)*

Directed group research in area of Egyptian, Mesopotamian, Minoan-Mycenaean, Greek, Etruscan or Roman Art History on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 271 - Seminar in Medieval Art*

*3 unit(s)*

Directed group research in area of European Medieval art history on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 272 - Seminar in Renaissance Art*

*3 unit(s)*

Directed group research in area of European art history of Renaissance period on topic designated by instructor. Research project required. Course is repeatable for up to 9 units of credit when course topic changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ARTH 273 - Seminar in Baroque Art*

*3 unit(s)*

Directed group research in area of European or Latin American art history of Baroque period on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 274 - Seminar in Nineteenth Century Art*

*3 unit(s)*

Directed group research in area of European or American art of nineteenth century on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 275 - Seminar in Twentieth Century Art*



3 unit(s)

Directed group research in area of European or American art of twentieth century on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ARTH 276 - Seminar in Oriental Art*

3 unit(s)

Directed group research in area of Asian art on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 277 - Seminar in Historiography*

3 unit(s)

Directed group research in theories and methodologies of art history. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 278 - Seminar in Myth and Symbol*

3 unit(s)

Directed group research in sources and meanings of myths and symbols. Research projects required. Repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.

**Grading:** Graded

*ARTH 279 - Seminar in Interdisciplinary Studies*

3 unit(s)

Directed group research in examination of relationship of art history to other academic disciplines on topic designated by instructor. Research projects required. Course is repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** At least two upper division art history courses or instructor consent.  
**Grading:** Graded

*ARTH 291 - Graduate Problems in Art History*

3 unit(s)  
Independent studies on a focused research project.

**Grading:** Graded

*ARTH 1290R - Culminating Experience Supervision*

1 unit(s)  
This course satisfies the requirement that all graduate students must remain enrolled during semesters in which they are working solely on their theses or projects, for which they have previously received but not cleared an RP grade.

*Course may be repeated for credit for up to 20 units.*

**Prerequisite(s):** Existing RP grade in a graduate-level thesis or project course  
**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*PHOT 40 - Beginning Photography*

3 unit(s)  
A Beginning photography course which introduces basic aesthetic issues in (primarily black and white) image making. Introduces photographic technique utilizing digital cameras, electronic image processing and digital printing. Requires a DSLR (digital single lens reflex) type camera. Requires Adobe Lightroom.

**Grading:** Graded

*PHOT 92 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*PHOT 110 - Black and White Photography*

3 unit(s)  
A traditional darkroom photography class which introduces black and white film developing, fiber based printing, and image manipulation and presentation techniques. Taught with traditional film and photo paper; requires a film camera, limited number of which department can loan students.

**Prerequisite(s):** PHOT 40.  
**Grading:** Graded

*PHOT 112 - Color Photography*

3 unit(s)  
An intermediate course introducing principles of color photography, color theory, a refined use of the camera and

digital printing techniques. Requires a DSLR (digital single lens reflex) type camera. Requires Adobe Lightroom and Adobe Photoshop.

**Prerequisite(s):** PHOT 40.

**Grading:** Graded

*PHOT 113 - Alternative Photo Media*

*3 unit(s)*

Explores historical, handmade photographic printing processes which open avenues of expression unavailable through contemporary photographic processes. Cyanotype, Van Dyke, and gum bichromate techniques are covered, as well as creating traditional and digital negatives for contact printing.

**Prerequisite(s):** PHOT 40

**Grading:** Graded

*PHOT 114 - Advanced Black and White Photography*

*3 unit(s)*

An advanced exploration of traditional silver based film and darkroom printing, the use of view cameras, and the Zone System. Provides students with the opportunity to explore qualities of expression unique to the gelatin silver process.

**Prerequisite(s):** PHOT 40 and PHOT 110 or instructor consent.

**Grading:** Graded

*PHOT 115 - Intermediate Digital Imaging*

*3 unit(s)*

An intermediate level course investigating the unique possibilities afforded by contemporary digital imaging. Includes preparation of images for presentation via print, video and/or web. Emphasis upon incorporating digital tools with ongoing development of student work.

**Prerequisite(s):** PHOT 40.

**Grading:** Graded

*PHOT 116 - Contemporary Issues in Photography*

*3 unit(s)*

Examination and discussion of aesthetic trends and philosophies in photography and related media, their impact on the medium and society.

**Prerequisite(s):** PHOT 40

**Grading:** Graded

*PHOT 120 - Image and Idea*

*3 unit(s)*

An intermediate course in which students pursue individual projects. Emphasis on diverse strategies of approach and presentation which culminate in a group exhibition.

**Prerequisite(s):** PHOT 40 and PHOT 110 or PHOT 112 or PHOT 115.

**Grading:** Graded

*PHOT 121 - Introduction to Studio Lighting*

3 unit(s)

Concepts and principles of lighting using both daylight and incandescent light sources and the use of standard studio lighting equipment.

**Prerequisite(s):** PHOT 40.

**Grading:** Graded

*PHOT 122 - Advanced Studio Lighting*

3 unit(s)

An advanced studio lighting course incorporating practices of professional photographic techniques that can be applied to commercial advertising photography or applied as fine art imagery. Training on professional level equipment is emphasized.

**Prerequisite(s):** PHOT 121

**Grading:** Graded

*PHOT 123 - Photography as Illustration*

3 unit(s)

Technical and conceptual aspects of producing effective photographic illustrations for fine art and commercial purposes (fine art exhibitions, advertisements, posters, magazines, story illustrations, etc.). Can include studio work, location photography, darkroom work and digital manipulation.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** PHOT 40.

**Grading:** Graded

*PHOT 125 - Special Topics in Photography*

3 unit(s)

Photography is a rapidly evolving field of study. In order to keep our curriculum current and add diversity to our staple of course offerings, our Photo 125, "Special Topics in Photography" offers a rotating variety of contemporary topics. Can be repeated for up to 15 units of credit when course topic changes.

*Course may be repeated for credit for up to 15 units.*

**Prerequisite(s):** PHOT 112, PHOT 113, PHOT 115, or instructor consent.

**Grading:** Graded

*PHOT 126 - History of Photography*

3 unit(s)

Technical developments and aesthetic trends in photography traced from its invention in the nineteenth century to the present day. Slide presentations, discussions, field trips.

**Prerequisite(s):** ARTH 70B or instructor consent.

**Grading:** Graded

*PHOT 129 - Professional Practices in Photography*

3 unit(s)

Designed to prepare graduating photo majors for practicing their profession. Emphasis will be placed on building a comprehensive portfolio and business identity. Course is repeatable once for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** PHOT 120, PHOT 121, plus two additional upper division photography courses.

**Grading:** Graded

*PHOT 180 - Individual Studies*

1-3 unit(s)

Individual work under guidance in field of special interest.

**Prerequisite(s):** PHOT 110.

**Grading:** Credit/No Credit

*PHOT 192 - Int'l Program Studies*

1-9 unit(s)

**Grading:** Mixed Grading

*PHOT 197 - Senior Project Photography*

3 unit(s)

Advanced course focused on creation or further development of photo-based project to be determined by the student and consisting of new work. Course emphasizes developing professional exit skills, a final body of finished work, and a professional portfolio.

**Prerequisite(s):** 15 units of upper division courses in PHOT

**Grading:** Graded

## Department of Design

**Office:** Art Building 120

**Telephone:** 408-924-4343

**Email:** Design@sjsu.edu

**Website:** www.sjsu.edu/design

### Professors

David Chai

Connie Hwang

Chang Sik Kim

John Loomis

John McClusky

Randall Sexton

### **Associate Professors**

John Clapp  
Raquel Coelho  
Joshua Nelson  
Virginia SanFratello, Chair  
Diana Seah

### **Assistant Professors**

Yoon Chung Han  
Diane Lee  
David Yee

## **Overview**

Our Department prepares students for design in the real world, not just in the abstract environment of the classrooms. The curriculum aspires to give students both conceptual and practical experience, so that once they graduate, they are armed with skills that could be adapted for the unpredictability of everyday life.

The department offers five areas of focus: Design Studies; Animation/Illustration; Graphic Design; Industrial Design; Interior Design. Each program is led by accomplished faculty members with years of professional achievements; most of whom, in addition to teaching, are currently working in their respective fields which equips them to provide students with the most updated information from the professional world.

The department is accredited by the National Association of Schools of Art and Design (NASAD).

## **Professional Design Programs**

The Department of Design offers professional programs in Animation/Illustration, Graphic, Industrial, and Interior Design. The curricula of the four programs combine the aesthetic sensitivity and technical knowledge necessary to function creatively in design, business and industry. Internships in design offices are integral to all four programs.

### **Admission Requirements for Animation/Illustration, Graphic, Industrial, and Interior Design**

1. Meet university admission requirements; attain upper division standing by completing 60 transferable semester units or 90 transferable quarter units prior to enrollment.
2. Admission to the BFA in Animation and Illustration is determined at the time students apply for admission to the university. There is no internal transfer into this program. Students admitted to the BA Design Studies may be admitted to the BFA in Graphic or Interior Design or the BS in Industrial Design on a space available basis after successfully completing required portfolio reviews in their first two years of study.

Portfolio reviews are held each semester for the following semester. Instructions are available in the Design department office. The following courses are required as preparation for the portfolio review.

- Animation/Illustration: ANI 10, ANI 11, ANI 13, ANI 21, ANI 31, ANI 71, ANI 101, ANI 111, ANI 121.
- Graphic Design: ANI 11, DSGD 63, DSGD 83, DSGD 99, DSGD 100, DSGD 104.
- Industrial Design: DSID 21, DSID 22, DSID 31, DSID 32, DSID 32A.
- Interior Design: DSIT 5, DSIT 10, DSIT 29, DSIT 33, DSIT 34, DSIT 83.

## **Undergraduate**

## Art, Animation/Illustration Concentration, BFA

The award-winning Animation/Illustration program, offered by the Department of Design, is committed to providing a world-class education at an affordable price, preparing students for careers in feature film animation, games, television and any other media that uses animation and storytelling as a core communication tool. Industry professionals and peer educators rank SJSU Animation/Illustration among the best in the nation. The core curriculum combines both traditional and innovative educational strategies. Rigorous drawing classes and intensive study of color theory, design, perspective, and conventional and digital painting are required, as well as the study of the principles of both traditional and 3-D animation, physics of motion, modeling, storyboarding, character design, and visual development. Upper-division classes further define these disciplines offering students an opportunity to specialize in their area of choice.

All students must pass a milestone portfolio review to remain in the BFA program. Students who were admitted as BFA Animation/Illustration and do not pass portfolio review will be changed to BA - Design Studies majors with a specialization in Animation/Illustration. This specialization provides instruction in A/I foundation skills, supplemented by studies in design, film, photography, and theater arts. Students receive basic preparation for entry-level jobs in the entertainment industry; optionally, they can later apply to a graduate program in Animation, Illustration or similar fields of study.

The BFA in Animation/Illustration is a highly impacted major. This means that the number of applications from fully eligible students far exceeds the number of spaces available in the program. Students interested in an impacted major must apply for admission during the initial filing period for admission in the fall. Applications for admission to impacted majors are not accepted after the initial filing period.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	36
Major Preparation	36
Major Core Requirements	27
Specialization Area	21
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more detail.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (36 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)



## Physical Education

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- DSGN 100W - Writing Workshop: Design 3 unit(s) (Z)

### Major Preparation (36 units)

- ANI 11 - Illustration Fundamentals I 3 unit(s) (ART 24 will also be accepted for transfer students)
- TA 5 - Acting 3 unit(s) (C1) (Will also accept ARTH 72 Design in Society)

### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 unit(s) (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 unit(s) (C1)
- ARTH 70C - Arts of Asia 3 unit(s) (C1)

### Additional Support Courses (27 units)

- ANI 10 - Light and Optics 3 unit(s) (ART 12 will also be accepted for transfer students)
- ANI 13 - Drawing for Animation/Illustration I 3 unit(s)
- ANI 21 - Color Principles for Screen Arts 3 unit(s) (ART 14 will also be accepted for transfer students)
- ANI 31 - 2D Animation I 3 unit(s)
- ANI 41 - Introduction to 3D Modeling 3 unit(s)
- ANI 61 - Introduction to 3D Animation 3 unit(s)
- ANI 71 - Visual Principles 3 unit(s)
- ANI 101 - Visual Storytelling 3 unit(s)
- ANI 111 - Drawing for Animation/Illustration II 3 unit(s)

### Major Requirements (48 units)

#### Core Courses (21 units)

- ANI 121 - Illustration Fundamentals II 3 unit(s)
- ANI 122 - Illustration Fundamentals III 3 unit(s)
- ANI 131 - 2D Animation II 3 unit(s)
- ANI 132 - 2D Animation III 3 unit(s)
- Area R Course 3 unit(s)
- Area S Course 3 unit(s)

- Area V Course 3 *unit(s)*

## Specialization Area (21 units)

**Choose a Specialization area in Animation or Visual Development.**

*Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.*

### Animation (21 units)

- ANI 161 - Digital Animation I 3 *unit(s)*
- ANI 162 - Digital Animation II 3 *unit(s)*
- Four Approved Electives 12 *unit(s)*

Complete One Course From:

- ANI 133 - Animation Production - Storyboarding 3 *unit(s)*
- ANI 134 - Animation Production II 3 *unit(s)*

### Visual Development (21 units)

- ANI 123 - Visual Development I 3 *unit(s)*
- ANI 124 - Visual Development II 3 *unit(s)*
- ANI 141 - Digital Modeling I 3 *unit(s)*
- Four Approved Electives 12 *unit(s)*

### Capstone Requirement (6 units)

- ANI 198 - Senior Seminar Animation/Illustration 3 *unit(s)*
- ANI 199 - Senior Project Animation/Illustration 3 *unit(s)*

## Total Units Required (120 units)

## Design Studies, BA

The BA Design Studies, offered by the Department of Design, provides students with broad exposure to design principles, history, and theory. In addition to receiving a foundation through core courses, students tailor their studies by focusing on one of the areas of specialization described below. Students may be admitted to the BFA in Interior Design or BFA in Graphic Design or the BS in Industrial Design on a space-available basis after successfully completing required portfolio reviews.

- Program Learning Outcomes

### **Portfolio Review for the BFA and BS Programs**

Animation/Illustration: Admission to the Art, Animation/Illustration Concentration, BFA is determined at the time students apply for admission to the university. There is no internal transfer into the BFA Animation and

Illustration. Students who were admitted as BFA Animation/Illustration and did not pass portfolio review will continue as BA Design Studies majors with a specialization in Animation/Illustration.

Graphic Design: Provides a basic understanding of the aesthetic and technical skills needed for graphic design. Students wishing to pursue a Graphic Design, BFA which would encompass exposure to a wider range of design disciplines, must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.

Industrial Design: Provides basic knowledge of 3D computer-aided design, materials and manufacturing, prototyping, and team-based theory. Students will have a basic preparation for jobs in computer-aided design support and model making, or be prepared to apply to a graduate program in Industrial Design or other areas. Students who wish to pursue the Industrial Design, BS must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.

Interior Design: Provides a basic understanding of the aesthetic and technical skills needed for interior design. Students wishing to pursue an Interior Design, BFA which would encompass exposure to a wider range of design disciplines, must pass portfolio review. Students should consult with a major advisor about the portfolio review process and deadlines at the time they enter SJSU.

### Summary of Degree Units

University Graduation Requirements	47
Major Requirements	48
University Electives	25
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- DSGN 100W - Writing Workshop: Design 3 *unit(s)* (Z)

## Major Requirements (48 units)

## Core Courses (24 units)

- ARTH 72 - Design in Society 3 *unit(s)* (C1)

## Art History

Complete one course from:

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

## Design Drawing

Complete one course from:

- ANI 11 - Illustration Fundamentals I 3 *unit(s)*  
ART 24 will also be accepted for transfer students.
- DSID 21 - Visualization I 3 *unit(s)*
- DSIT 10 - Sketching, Drawing + Modeling 3 *unit(s)*

## Design Foundation I

Complete one course from:

- DSGD 63 - Fundamental Graphic Visualization 3 *unit(s)*
- DSID 22 - Visualization II 3 *unit(s)*
- DSIT 5 - Introduction of Interior Design and Architecture 3 *unit(s)*

## Design Foundation II

Complete one course from:

- DSGD 83 - Digital Applications: Basics 3 *unit(s)*
- DSID 31 - Industrial Design Foundation I 3 *unit(s)*
- DSIT 29 - Design Process 3 *unit(s)*

## Design Methods I

Complete one course from:

- ANI 31 - 2D Animation I 3 *unit(s)*
- DSID 137 - Advanced Physical Prototyping 3 *unit(s)*
- DSIT 33 - Architectural Presentation 3 *unit(s)*

## Design Methods II

Complete one course from:

- DSGD 99 - Introduction to Typography 3 unit(s)
- DSID 32 - Industrial Design Foundation II 3 unit(s)
- DSIT 83 - Visual Communication I 3 unit(s)

## Design History

Complete one course from:

- DSGD 176A - Graphic Design History and Theory 3 unit(s)
- DSID 122 - Cont. & Crit. Studies: Industrial Design 3 unit(s)

## Complete One Course From:

- ARTH 160 - Modern Architecture 3 unit(s)
- ARTH 161 - Contemporary Architecture 3 unit(s)

## Area Specialization (12 units)

**Complete One of the Three Specialization Areas Below.**

*Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.*

## Graphic Design

- DSGD 100 - Visual Communication & Process 3 unit(s)
- DSGD 104 - Introduction to Graphic Design 3 unit(s)
- DSGD 111 - Design Values and Professional Practices 3 unit(s)
- DSGN 197 - BA Senior Project 3 unit(s)

## Industrial Design

- DSID 41 - Materials and Processes I 3 unit(s)
- DSID 129 - Visualization III 3 unit(s)
- DSID 136 - Advanced Digital Workshop 3 unit(s)
- DSID 143 - Advanced Materials, Process & Technology 3 unit(s)

## Interior Design

- DSIT 34 - Interior Architecture Foundation Studio 3 unit(s)

Complete Three Courses From:

- DSIT 100 - Building Codes 3 unit(s)
- DSIT 107 - Furniture Design 3 unit(s)
- DSIT 108 - Architectural Lighting Design 3 unit(s)
- DSIT 112 - Professional Practice of Interior Archit 3 unit(s)

## Lower Division Design Electives (6 units)

Departmental advisor-approved Lower Division design electives

## Upper Division Design Electives (6 units)

Departmental advisor-approved Upper Division design electives

## University Electives (25 units)

## Total Units Required (120 units)

# Graphic Design, BFA

The BFA Graphic Design program, offered by the Department of Design, prepares students for intellectually and aesthetically challenging careers in Graphic Design. Preparation involves both theoretical and practical study with emphasis on typography, form and image, information architecture, experience design and interactive design. Admission to the BFA Graphic Design program is by portfolio review, which takes place after completing preliminary course work. After admission, passage of portfolio reviews conducted at the end of each semester are required to continue to advance through the BFA GD program. All students are required to complete a professional internship. In addition to the regular curriculum, students have the opportunity to attend special classes and workshops led by studio professionals and faculty members.

Students must pass a milestone portfolio review to remain in the BFA program. Students who do not pass the review will be changed to the Design Studies, BA.

The Graphic Design Program is on the list of schools accredited by National Association of Schools of Art & Design (NASAD).

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 47

Major Preparation 21

Major Requirements 49

University Electives 3

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Requirements**

Students must maintain a 3.0 GPA on a 4.0 scale in all Art/Design courses. Failing this, the BFA status will be changed to the Design Studies, BA program.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)



- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- DSGN 100W - Writing Workshop: Design 3 *unit(s)* (Z)

### Major Preparation (21 units)

#### Preparation Courses (6 units)

Complete one course from:

- ANI 11 - Illustration Fundamentals I 3 *unit(s)* (ART 24 will also be accepted for transfer students)
- DSIT 10 - Sketching, Drawing + Modeling 3 *unit(s)*

#### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

#### Additional Support Courses (15 units)

- ANI 31 - 2D Animation I 3 *unit(s)*
- ARTH 72 - Design in Society 3 *unit(s)* (C1)
- ARTH 176A - Graphic Design History and Theory 3 *unit(s)*
- DSGD 63 - Fundamental Graphic Visualization 3 *unit(s)*
- DSGD 83 - Digital Applications: Basics 3 *unit(s)*

### Major Requirements (49 units)

- DSGD 99 - Introduction to Typography 3 *unit(s)*
- DSGD 100 - Visual Communication & Process 3 *unit(s)*

- DSGD 102 - Intermediate Typography 3 *unit(s)*
- DSGD 103A - Advanced Typography I 3 *unit(s)*
- DSGD 104 - Introduction to Graphic Design 3 *unit(s)*
- DSGD 105 - Intermediate Graphic Design 3 *unit(s)*
- DSGD 106 - Advanced Graphic Design 3 *unit(s)*
- DSGD 108 - Graphic Design Portfolio 3 *unit(s)*
- DSGD 110 - Visual Literacy: Image Making 3 *unit(s)*
- DSGD 120 - Exhibition Design & Info Graphics 3 *unit(s)*
- DSGD 150 - Degree Project: Senior Studio 4 *unit(s)*
- DSGD 186 - Digital Applications: Methodology 3 *unit(s)*

### Complete One Course From:

- DSGD 127 - Design Practicum 3 *unit(s)*
- DSGN 127 - Internship 1-4 *unit(s)* (3 *units* required)

### Complete Three Courses From:

- DSGD 103B - Advanced Typography II 3 *unit(s)*
- DSGD 107A - Special Topics in Graphic Design 3 *unit(s)*
- DSGD 107B - Special Topics in Experience Design 3 *unit(s)*
- DSGD 131 - Motion Graphics 3 *unit(s)*
- DSGD 132 - User Interface & Interaction Design 3 *unit(s)*
- DSGD 141 - 3D Branding & Promotion Design 3 *unit(s)*

### University Electives (3 units)

### Total Units Required (120 units)

## Industrial Design, BS

The Bachelor of Science Industrial Design (BSID), offered by the Department of Design, program prepares students for a career in industrial design through a curriculum in design studio, theory and skill classes supported by courses and content in technology, business, science, the arts and humanities. Emphasis is placed on critical thinking, creative design process management, aesthetic theory, communication skills and awareness of business as well as humanistic dimensions of product development. The program draws upon extensive resources of local and internationally prominent design firms and alumni. It emphasizes exposure to professional practice. Studio projects provide experience with a diverse spectrum of products, user scenarios, and industries, leading to a comprehensive professional portfolio. The Industrial Design Program is on the list of schools approved by the Industrial Designers Society of America (IDSA) and is accredited by National Association of Schools of Art & Design (NASAD).

Upon successful completion of the first year of study as a Design Studies, BA, students can elect to participate in the BSID Portfolio Review. This review evaluates a student's demonstrated ability and successful candidates are accepted into the BSID major. The subsequent years of study in the BSID major are highly structured and require passing three annual portfolio courses: DSID 123A, DSID 125A, DSID 128A.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 39

Major Preparation 24

Major Requirements 57

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (39 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Complete One Sequence From:**

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- DSGN 100W - Writing Workshop: Design 3 *unit(s)* (Z)

## Major Preparation (24 units)

### Preparation Courses (9 units)

- ARTH 72 - Design in Society 3 *unit(s)* (C1)
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)

### Additional Prep Courses (15 units)

- DSID 21 - Visualization I 3 *unit(s)*
- DSID 22 - Visualization II 3 *unit(s)*
- DSID 31 - Industrial Design Foundation I 3 *unit(s)*
- DSID 32 - Industrial Design Foundation II 3 *unit(s)*

## Complete One Course From:

- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3)
- PHIL 57 - Logic and Critical Reasoning 3 *unit(s)* (A3)

## Major Requirements (57 units)

### Core Courses (50 units)

- DSID 32A - ID Portfolio Project I 1 *unit(s)*
- DSID 41 - Materials and Processes I 3 *unit(s)*
- DSID 121 - Industrial Design Process 3 *unit(s)*
- DSID 122 - Cont. & Crit. Studies: Industrial Design 3 *unit(s)*
- DSID 123 - Intermediate Industrial Design 3 *unit(s)*
- DSID 123A - ID Portfolio Project 2 3 *unit(s)*
- DSID 125 - Advanced Industrial Design 3 *unit(s)*
- DSID 125A - ID Portfolio Project 3 2 *unit(s)*
- DSID 126 - Ergonomics for Design 3 *unit(s)*
- DSID 129 - Visualization III 3 *unit(s)*
- DSID 136 - Advanced Digital Workshop 3 *unit(s)*
- DSID 137 - Advanced Physical Prototyping 3 *unit(s)*
- DSID 143 - Advanced Materials, Process & Technology 3 *unit(s)*
- DSGN 127 - Internship 1-4 *unit(s)*

### Complete Four Courses From:

- DSID 124 - Design for All 3 *unit(s)*
- DSID 130 - Sustainable Design 3 *unit(s)*
- DSID 131 - Interaction Design 3 *unit(s)*
- DSID 132 - Softgoods 3 *unit(s)*
- DSID 133 - Design Projects: Making It 3 *unit(s)*
- DSID 134 - Design and Meaning 3 *unit(s)*
- DSID 135 - Design, Entrepreneurship, Intellectual Property and Professional Practice 3 *unit(s)*
- DSID 144 - Design for Healthcare 3 *unit(s)*

### Capstone (7 units)

- DSID 128 - Advanced Projects in Industrial Design 3 *unit(s)* (*Students will take DSID 128 twice, for a total of 6 units.*)
- DSID 128A - ID Portfolio Project 4 1 *unit(s)*

## Total Units Required (120 units)

## Interior Design, BFA

Students majoring in Interior Design, offered by the Department of Design, draw upon a wide range of university and Bay Area community resources to prepare for professional careers in both the private and public sectors in areas such as corporate, hospitality, institutional, office and retail planning and design. Preparation involves both theoretical and practical study of interior architecture with emphasis on critical thinking, communication skills, design process, merging technologies, human factors, aesthetic sensibilities, laws, codes and regulations, and professional ethics. Admission to the BFA Interior Design program is by portfolio review, which takes place after completing preliminary course work. After admission, passage of portfolio reviews conducted at the end of each semester are required to continue to advance through the BFA IT program. All students in the Interior Design Program are required to complete a 1 unit professional internship as part of their degree requirements.

Students must pass a milestone portfolio review to remain in the BFA program. Students who do not pass the review will be changed to the Design Studies, BA.

San José State University is an accredited institutional member of the National Association of Schools of Art and Design (NASAD), which is recognized by both the California Council for Interior Design Certification (CCIDC) and the National Council for Interior Design Qualification (NCIDQ).

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements	32
Major Preparation	39
Major Requirements	43
University Electives	6
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Requirements**

Students must maintain a 3.0 GPA on a 4.0 scale in all Art/Design courses. Failing this, the BFA status will be changed to the Design Studies, BA program.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (32 units)**

## **Core Lower Division General Education (21 units)**

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (39 units)

### Preparation Courses (12 units)

- ARTH 72 - Design in Society 3 unit(s) (C1)
- DSGN 100W - Writing Workshop: Design 3 unit(s) (Z)
- DSIT 10 - Sketching, Drawing + Modeling 3 unit(s)

### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 unit(s) (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 unit(s) (C1)
- ARTH 70C - Arts of Asia 3 unit(s) (C1)

### Additional Prep Courses (27 units)

- DSIT 5 - Introduction of Interior Design and Architecture 3 unit(s)
- DSIT 29 - Design Process 3 unit(s)
- DSIT 33 - Architectural Presentation 3 unit(s)
- DSIT 34 - Interior Architecture Foundation Studio 3 unit(s)
- DSIT 83 - Visual Communication I 3 unit(s)
- DSIT 102 - Computer Graphics for Interior Architecture 3 unit(s)
- DSIT 103 - Interior Architecture Conceptual Design Studio 3 unit(s)
- ENVS 1 - Introduction to Environmental Issues 3 unit(s) (D1)

### Complete One Course From:

- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3)
- PHIL 57 - Logic and Critical Reasoning 3 unit(s) (A3)

## Major Requirements (43 units)

- DSIT 100 - Building Codes 3 unit(s)
- DSIT 101 - Architectural Systems and Materials + Adv Modeling 3 unit(s)
- DSIT 104 - Interior Architecture Space Planning Studio 3 unit(s)
- DSIT 105 - Interior Architecture Advanced Design Studio 3 unit(s)
- DSIT 106 - Architectural Project Materials 3 unit(s)
- DSIT 107 - Furniture Design 3 unit(s)
- DSIT 108 - Architectural Lighting Design 3 unit(s)
- DSIT 109 - Object Design for Interiors 3 unit(s)
- DSIT 110 - Capstone Thesis Studio 3 unit(s)
- DSIT 111 - Interior Architecture Seminar 3 unit(s)
- DSIT 112 - Professional Practice of Interior Archit 3 unit(s)
- DSGN 127 - Internship 1-4 unit(s)



## Complete One Course From:

- ARTH 160 - Modern Architecture 3 *unit(s)*
- ARTH 161 - Contemporary Architecture 3 *unit(s)*

## Complete Two Courses From:

- ART 46 - Introduction to Ceramics 3 *unit(s)*
- ART 47 - Introduction to Metalsmithing 3 *unit(s)*
- ART 105 - Advanced Digital Video 3 *unit(s)*
- ART 132 - Topics in Intermediate Ceramics 3 *unit(s)*
- ART 140 - Topics in Glass 3 *unit(s)*
- ART 141 - Topics in Advanced Glass 3 *unit(s)*
- ART 147 - Topics in Metalsmithing and Jewelry 3 *unit(s)*
- ART 149 - Topics in Jewelry and Small Sculpture 3 *unit(s)*
- ART 168 - Topics in Woodworking 3 *unit(s)*
- ART 169 - Topics in Metal Sculpture 3 *unit(s)*
- ARTH 162 - California Architecture 3 *unit(s)*
- ARTH 163 - Twentieth Century Urban Design 3 *unit(s)*
- ARTH 192C - History of Interior Design 3 *unit(s)*
- DSGD 99 - Introduction to Typography 3 *unit(s)*
- ENVS 132 - Solar Home Design 3 *unit(s)*
- ENVS 137 - Green Building Design Issues 3 *unit(s)*
- PHIL 110 - Science, Technology and Human Values 3 *unit(s)* (V)
- URBP 101 - The City 3 *unit(s)* (S)
- URBP 120 - Intro to Housing Economics and Policy 4 *unit(s)*
- URBP 142 - Introduction to Environmental Planning 4 *unit(s)*
- URBP 151 - Introduction to Urban Design 4 *unit(s)*
- URBP 152 - Introduction to Urban Design Studio 4 *unit(s)*

## University Electives (6 units)

## Total Units Required (120 units)

Student chapters of the American Society of Interior Designers (ASID) and the International Interior Design Association (IIDA) contribute to this professional program.

## Minor

### Graphic Design Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (6 units)

### Complete One Course From:

- ANI 11 - Illustration Fundamentals I 3 *unit(s)* (*ART 24 will also be accepted for transfer students*)
- DSID 21 - Visualization I 3 *unit(s)*
- DSIT 10 - Sketching, Drawing + Modeling 3 *unit(s)*

### Complete One Course From:

*Highly Recommend Students take ARTH 70B*

- ARTH 70A - Art History, Prehistoric to Medieval 3 *unit(s)* (C1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)

## Additional Minor Support (6 units)

- DSGD 63 - Fundamental Graphic Visualization 3 *unit(s)*
- DSGD 83 - Digital Applications: Basics 3 *unit(s)*

## Minor Requirements (12 units)

- DSGD 99 - Introduction to Typography 3 *unit(s)*
- DSGD 100 - Visual Communication & Process 3 *unit(s)*
- DSGD 104 - Introduction to Graphic Design 3 *unit(s)*
- DSGN 197 - BA Senior Project 3 *unit(s)*

## Total Units Required (24 units)

# Interaction Design Minor

**Minor Coordinator:** Joshua Nelson (Industrial Design)

Interaction Design deals with the structure and behavior of interactive products and services. Interaction Designers create compelling relationships between people and the interactive systems they use, from computers to mobile devices to appliances; Interaction Designers lay the groundwork for intangible experiences.

The minor requires students to complete 21 units of required courses. 12 of these units must be outside the requirements for the student's major, i.e. the same courses cannot be listed on the minor and the major form. It is the student's responsibility to make sure

that the prerequisites for each course are met. Students should declare the minor as soon as possible so that they can enroll in courses with waived prerequisites. Students in Majors other than Design Studies, BA, Graphic Design, BFA, or Industrial Design, BS may need to take additional courses to meet prerequisites for the courses required in this minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (6 units)

- PSYC 1 - Introduction to Psychology 3 *unit(s)*
- DSGD 83 - Digital Applications: Basics 3 *unit(s)*

## Minor Requirements (12 units)

- DSID 126 - Ergonomics for Design 3 *unit(s)*
- DSID 131 - Interaction Design 3 *unit(s)*
- DSGD 186 - Digital Applications: Methodology 3 *unit(s)*
- PSYC 173 - Human Factors 3 *unit(s)*

## Minor Elective (3 units)

Electives offer a breadth of classes ranging from advanced topics in visual design to coding to relevant cultural concerns. These courses all relate to interaction design in a variety of ways. The offering is intended to provide a small amount of specialization within the minor as driven by the student's career goals.

*Note: Some courses have pre/co-requisites that fall outside of the minor. Course availability may vary from semester to semester. Check with your Minor advisor for more information.*

- ART 106 - Topics in Human Machine Interface 3 *unit(s)*
- ART 109 - Web Development in HTML, CSS and JavaScript 3 *unit(s)*
- ANTH 149 - Ethnographic Methods 3 *unit(s)*
- CMPE 30 - Programming Concepts and Methodology 3 *unit(s)*
- CS 22A - Python Programming for Non Majors I 3 *unit(s)*
- CS 46A - Introduction to Programming 4 *unit(s)*
- DSGD 99 - Introduction to Typography 3 *unit(s)*
- DSGD 132 - User Interface & Interaction Design 3 *unit(s)*
- ENGR 25 - The Digital World and Society 3 *unit(s)*
- ISE 164 - Computer and Human Interaction 3 *unit(s)*
- PSYC 117 - Psychological Tests and Measures 3 *unit(s)*
- PSYC 135 - Cognition 3 *unit(s)*
- PSYC 158 - Perception 3 *unit(s)*

## Total Units Required (21 units)

## Interior Design Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (9 units)

- DSIT 5 - Introduction of Interior Design and Architecture 3 *unit(s)*
- DSIT 10 - Sketching, Drawing + Modeling 3 *unit(s)*
- DSIT 83 - Visual Communication I 3 *unit(s)*

## Minor Requirements (15 units)

- DSIT 29 - Design Process 3 *unit(s)*
- DSIT 33 - Architectural Presentation 3 *unit(s)*
- DSIT 34 - Interior Architecture Foundation Studio 3 *unit(s)*

## Complete Two Courses From:

- DSIT 106 - Architectural Project Materials 3 *unit(s)*
- DSIT 107 - Furniture Design 3 *unit(s)*
- DSIT 108 - Architectural Lighting Design 3 *unit(s)*
- DSIT 112 - Professional Practice of Interior Archit 3 *unit(s)*

## Total Units Required (24 units)

### *ANI 10 - Light and Optics*

3 *unit(s)*

An investigation into the physical properties of light and optics relevant to the visualization of artwork for the screen arts industry.

**Prerequisite(s):** BFA Animation/Illustration majors only

**Grading:** Graded

### *ANI 11 - Illustration Fundamentals I*

3 *unit(s)*

Basic principles of animation and illustration stressing composition, sequential visual storytelling, value drawing and other visual art techniques utilized by professionals in the screen arts industry.

**Prerequisite(s):** BA Design Studies or BFA Animation/Illustration majors only

**Grading:** Graded

### *ANI 13 - Drawing for Animation/Illustration I*

3 *unit(s)*

Principles of drawing for illustration and animation: gesture, construction, anatomy and technique. An intensive study of the human figure from life, and its use in working in animation and the screen arts industry.

**Prerequisite(s):** ANI 11, and BFA Animation/Illustration

**Grading:** Graded

*ANI 21 - Color Principles for Screen Arts*

3 unit(s)

Exploration of basic illustration problems involving studies in color, light, painting technique, and their application to color scripting in the screen arts industry.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** Allowed declared Animation major only Note: ANI 21 (formerly ANI 14) is treated as a repeat for students who have taken ART 14.

**Grading:** Graded

*ANI 31 - 2D Animation I*

3 unit(s)

Introduction to the basic elements of animation and representation. Included are motion and animation exercises to understand mass movement through space, and reaction to external forces.

**Prerequisite(s):** BA Design Studies or BFA Animation/Illustration majors only

**Grading:** Graded

*ANI 41 - Introduction to 3D Modeling*

3 unit(s)

Emphasis is on generating an in-depth understanding of digital media using commercial 2-D and 3-D software. Students are introduced to the underlying mathematical and conceptual processes of computer graphics.

**Prerequisite(s):** ANI 11 and BFA Animation/Illustration major only

**Grading:** Graded

*ANI 61 - Introduction to 3D Animation*

3 unit(s)

Basic concepts and professional practices used in 3D computer animation. Application of traditional principles of animation to the 3D digital environment.

**Prerequisite(s):** BFA Animation/Illustration majors only

**Grading:** Graded

*ANI 71 - Visual Principles*

3 unit(s)

Presents concepts of 2D design as they apply to the creation of sequential narrative imagery for the screen arts.

**Prerequisite(s):** BFA Animation/Illustration Majors only

**Grading:** Graded

*ANI 101 - Visual Storytelling*

3 unit(s)

Basic principles of animation and illustration stressing composition, sequential visual storytelling, value drawing and other visual art techniques utilized by professionals in the screen arts industry.

**Prerequisite(s):** ANI 10 and ANI 11

**Grading:** Graded

*ANI 111 - Drawing for Animation/Illustration II*

*3 unit(s)*

Principles of drawing for illustration and animation: gesture, construction, anatomy and technique. An intensive study of the human figure from life, and its use in working in animation and the screen arts industry.

**Prerequisite(s):** ANI 13

**Grading:** Graded

*ANI 112 - Conceptual Illustration*

*3 unit(s)*

Advanced course in illustration professionalism, stressing individual responses to assignments that typify those expected of freelance illustration providers. Emphasis on individual expression and development of personal direction.

**Prerequisite(s):** ANI 122, passage of Mid-Program Review

**Grading:** Graded

*ANI 121 - Illustration Fundamentals II*

*3 unit(s)*

Exploration of basic illustration problems involving studies in color, light, painting technique, and their application to the screen arts industry.

**Prerequisite(s):** ANI 21, BFA Animation/Illustration Major

**Grading:** Graded

*ANI 122 - Illustration Fundamentals III*

*3 unit(s)*

Completion of a complex painting incorporating knowledge of drawing principles, construction, composition, value and technique.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** ANI 121; Allowed declared Animation major only

**Grading:** Graded

*ANI 123 - Visual Development I*

*3 unit(s)*

Narrative problems for illustrative assignments, professional processes and technical accomplishment. Studio course that examines advanced principles of illustration and their practical application in contemporary visual communication and design.

*Misc/Lab: Activity 6 hours*

**Prerequisite(s):** ANI 122; Allowed Declared Majors: Animation

**Grading:** Graded

*ANI 124 - Visual Development II*

*3 unit(s)*

Advanced visual development projects with emphasis on attaining professional standards. Explores experimentation with the exaggeration and abstraction of realistic imagery to realize new, stylized imagery.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ANI 123; Allowed Declared Majors: Animation

**Grading:** Graded

*ANI 131 - 2D Animation II*

*3 unit(s)*

Fundamentals of 2D animation involving the completion of a series of basic exercises in motion, action analysis and kinetics.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** ANI 31, Passage of Mid-Program Portfolio Review; Allowed declared Animation major only

**Grading:** Graded

*ANI 132 - 2D Animation III*

*3 unit(s)*

Demonstrate understanding of 2D animation principles through the completion of a series of advanced exercises in motion study, action analysis, pre-production, and narrative development; culminating in the completion of a short, animated film.

**Prerequisite(s):** ANI 131

**Grading:** Graded

*ANI 133 - Animation Production - Storyboarding*

*3 unit(s)*

Special problems in animation studies: storyboarding, sequential visual narrative, film making, professional practices and portfolio preparation.

**Pre/Corequisite(s):** ANI 132

**Grading:** Graded

*ANI 134 - Animation Production II*

*3 unit(s)*

Concepts of sound design, video editing, compositing, and post production; principles necessary to put advanced animation skills into practical application for film production.

**Prerequisite(s):** Passage of Mid-Program Portfolio Review, Instructor Consent

**Grading:** Graded

*ANI 141 - Digital Modeling I*

3 unit(s)

Intermediate level 3D digital modeling techniques using current industry standard software for the creation of 3D digital models. Introduction to the concept of production pipelines, with focus on modeling.

**Prerequisite(s):** ANI 41

**Grading:** Graded

*ANI 142 - Digital Modeling II*

3 unit(s)

Advanced level 3D digital modeling techniques using current industry standard software for the creation of 3D digital models. Students re-investigate the character pipeline with focus on human characters with complicated costuming and accessories.

**Prerequisite(s):** ANI 141

**Grading:** Graded

*ANI 161 - Digital Animation I*

3 unit(s)

Creation of believable movement by applying the traditional principles of animation to 3D digital characters, focusing on body mechanics, with emphasis on the building blocks of an animated scene, and the work flow from planning phase to final animation.

**Prerequisite(s):** ANI 61 and Passage of Mid-Program Portfolio Review

**Grading:** Graded

*ANI 162 - Digital Animation II*

3 unit(s)

Application of the traditional principles of animation for intermediate level 3D character animation, with focus on arcs, overlapping action, spacing, squash and stretch, strong posing and silhouette. In terms of workflow, the emphasis is on achieving a strong blocking more efficiently, and on techniques for polishing the animation.

**Prerequisite(s):** ANI 161

**Grading:** Graded

*ANI 175 - Professional Practices in Entertainment Design*

3 unit(s)

Current professional practices in the field of Entertainment Design. Technically and conceptually sophisticated projects foster a deeper understanding of narrative, stylization, individual point of view, acting and character, through hands-on creative work, class critiques and discussions.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*ANI 178 - Animation / Illustration Internship*



1-6 unit(s)

Professional practice in a selected field relevant to current practices in the screen arts industry.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Program and Supervisor Approval; Allowed declared Animation major only

**Grading:** Credit/No Credit

*ANI 179 - Special Topics in Animation/Illustration*

3 unit(s)

Special Topics in Animation and Illustration. Repeatable when topic changes for up to 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ANI 124, ANI 142 or ANI 162 AND Passage of Mid-Program Portfolio Review

**Grading:** Graded

*ANI 180 - Individual Studies*

3-6 unit(s)

Special topics or projects by arrangement with instructor

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper-division standing in Animation/Illustration; Allowed declared Animation major only

**Grading:** Credit/No Credit

*ANI 192 - Int'l Program Studies*

1-9 unit(s)

**Grading:** Mixed Grading

*ANI 198 - Senior Seminar Animation/Illustration*

3 unit(s)

The first in a two-course sequence that constitutes the capstone for the BFA degree in Animation/Illustration. In ANI 198, students will undertake the necessary research to successfully complete the second course in the sequence.

*6 hours activity.*

**Prerequisite(s):** ANI 123 or ANI 132; Allowed declared Animation major only.

**Grading:** Graded

*ANI 199 - Senior Project Animation/Illustration*

3 unit(s)

A project demonstrating professional competence in area of concentration. A gallery exhibition with the approval of the student's advisory committee is required.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ANI 198; Allowed declared Animation major only

**Grading:** Graded

*DSGD 63 - Fundamental Graphic Visualization*

3 unit(s)

Critical examination and theories on how to work with two-dimensional compositional space and the interrelated basic principles, attributes, and elements of graphic design, includes the relationships between some production methods and materials.

**Grading:** Graded

*DSGD 83 - Digital Applications: Basics*

3 unit(s)

The fundamental use of features and functions inherent within graphic software programs for graphic design.

**Grading:** Graded

*DSGD 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Graded

*DSGD 99 - Introduction to Typography*

3 unit(s)

Study and demonstration of letterforms and fundamental typographic principles. Emphasis on the vocabulary of typographic form and its relationship to message/purpose.

*Misc/Lab: Activity 6 hours*

**Prerequisite(s):** GD majors: ANI 11 or ART 24, DSGD 83; ANI majors: ANI 11, ANI 71; IT majors: DSIT 33, DSIT 10, DSIT 83; ID majors: completion of DSID 22 or completion of DSGD 83 and concurrently enrolled in DSID 22

**Grading:** Graded

*DSGD 100 - Visual Communication & Process*

3 unit(s)

Problems explore methods of visual organization used in graphic communication. Course promotes the critical examination and development of ideas, two-dimensional spaces, and three-dimensional structures, including the relationship between some production methods and materials.

**Prerequisite(s):** ANI 11 (or ART 24 or DSID 21 or DSIT 10), DSGD 63, DSGD 83 (or ANI 50 or DSID 22, DSIT 83), DSGD 99

**Grading:** Graded

*DSGD 102 - Intermediate Typography*

3 unit(s)

Application of typographic principles to a diverse series of graphic design problems utilizing text and display letterforms, organizational systems, fundamental design theories and conceptual innovation.

**Prerequisite(s):** Pass BFA portfolio review, DSGD 104  
**Grading:** Graded

*DSGD 103A - Advanced Typography I*

3 unit(s)

Advanced conceptual investigations, verbal and visual problem solving utilizing typography and image.

6 hours Activity.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 110, DSGD 186  
**Grading:** Graded

*DSGD 103B - Advanced Typography II*

3 unit(s)

Capstone conceptual investigations, verbal and visual problem solving utilizing typography and image.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105, DSGD 186  
**Grading:** Graded

*DSGD 104 - Introduction to Graphic Design*

3 unit(s)

Familiarization to form and message development. Emphasis on visual concepts and fundamental design theory.

Course may be repeated for credit for up to 6 units.

**Prerequisite(s):** DSGD 100, DSGD 99  
**Grading:** Graded

*DSGD 105 - Intermediate Graphic Design*

3 unit(s)

Development of concepts combining image/form, message, typography and function with fundamental design theory. Course is repeatable for a total of 6 units.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 102, DSGD 110  
**Grading:** Graded

*DSGD 106 - Advanced Graphic Design*

3 unit(s)

Advanced and diverse series of topics confronting a wide variety of situations and needs emphasizing conceptual innovation, organization, planning and analysis.

**Prerequisite(s):** Pass BFA Portfolio Review.  
**Grading:** Graded

*DSGD 107A - Special Topics in Graphic Design*

3 unit(s)

Comprehensive design problems utilizing design theories, analysis, experimentation, innovation and conceptual development as systematic approaches to structuring various degrees of graphic design issues; database scientific visualization, graphic information system, publication design, and promotion & media graphics.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** Pass BFA Portfolio Review

**Grading:** Graded

*DSGD 107B - Special Topics in Experience Design*

3 unit(s)

Capstone design problems utilizing design methodologies, theories, and analysis in the area of time-base multi-media design; narrative filming, kinetic typography in motion, interaction design, and event design as related to visual information design.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** Pass BFA Portfolio Review

**Grading:** Graded

*DSGD 108 - Graphic Design Portfolio*

3 unit(s)

Portfolio preparation using various media and methods for effective professional presentation.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105, DSGD 186

**Grading:** Graded

*DSGD 110 - Visual Literacy: Image Making*

3 unit(s)

A course that defines the ability to assess and utilizes communications composed of various visual images (hybridization of manual, analog, and digital processes) for goal oriented projects. Students will develop tools needed to critically examine the visual world and strategies for creating unique visual forms and process of visual encoding and visual decoding for incorporating into graphic design projects.

**Prerequisite(s):** Pass BFA portfolio review; DSGD 104.

**Grading:** Graded

*DSGD 111 - Design Values and Professional Practices*

3 unit(s)

Defines and investigates design practices, processes, materials, and vocation and their effects on society, environment, business, and intellectual property. Lectures, discussions, and group and individual projects explore applications of design thinking for positive local to global outcomes.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** ANI majors: ANI 50; GD majors: DSGD 63, DSGD 83; IT majors: DSIT 33, DSIT 83; ID majors: DSID 22 or DSGD 83.

**Corequisite(s):** DSID 22

**Grading:** Graded

*DSGD 120 - Exhibition Design & Info Graphics*

*3 unit(s)*

Introducing principles, processes, and vocabularies of exhibition design. A substantial amount of student activity in the classroom will address acquiring and refining the two- and three-dimensional visualization of objects and spaces.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 110, DSGD 186

**Grading:** Graded

*DSGD 127 - Design Practicum*

*3 unit(s)*

Building a successful design career requires an understanding of best practices and the standards governing the ever-evolving business of graphic design. This course aims to explore the creative business processes, marketing, negotiation and pricing, ethical standards of design business, and professional relationships in design.

*6 hours Activity.*

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 110, DSGD 186

**Grading:** Graded

*DSGD 131 - Motion Graphics*

*3 unit(s)*

A capstone design problems course that exposes students to the principles, methodologies, and elements of motion graphics and narrative design. Students will develop techniques and skills for synthesizing the language of motion simultaneously with an emphasis on narrative structure, and text and image in relation to time-based media. The project will be examined in terms of its historical, cultural and conceptual implications.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105, DSGD 186

**Grading:** Graded

*DSGD 132 - User Interface & Interaction Design*

*3 unit(s)*

An advanced course focusing on the fundamental theory and practice of computer user interface and interactive design with emphasis on: the 2D graphic digital user interfaces, the current interaction development technology, theory, process and methods, and its overall impact on culture and society.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105, DSGD 186

**Grading:** Graded

*DSGD 141 - 3D Branding & Promotion Design*

*3 unit(s)*

Experimental problems and themes exploring theories, strategies, and methodologies in 3D branding and Promotion Design such as marketing communication tools, packaging and P.O.P design, emphasizing innovative expression. Projects also examine contextual and conceptual prototyping for point of purchase display.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105 and DSGD 186

**Grading:** Graded

*DSGD 150 - Degree Project: Senior Studio*

*4 unit(s)*

This in-depth studies course focuses on research concerning current issues in visual communication/information/graphic design fields. This course is for procuring the undergraduate degree in BFA Graphic Design degree where the student will develop an individual design approach, process, and methodology for the application of graphic design solutions as the thesis project that will fulfill the criteria expected for graduation.

**Prerequisite(s):** Pass BFA Portfolio Review, DSGD 105, DSGD 186

**Grading:** Graded

*DSGD 176A - Graphic Design History and Theory*

*3 unit(s)*

The history of graphic design and typography with an emphasis on the 20th century. Define technological, historical and theoretical concerns and influences on individuals and movements in graphic design.

**Prerequisite(s):** ARTH 72, completion of Area Z, or instructor consent.

**Grading:** Graded

*DSGD 186 - Digital Applications: Methodology*

*3 unit(s)*

Exposes students to the tools, skill sets, and languages that are essential to understanding the fundamentals for web based information and interaction design principles and discovery of its practice in the profession. Activity 6 hours.

*Activity 6 hours.*

**Prerequisite(s):** BFA Graphic Design Major, or Interaction Design Minors must complete DSID 126.

**Grading:** Graded

*DSGD 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*DSGN 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*DSGN 100W - Writing Workshop: Design*

*3 unit(s)*

Advanced writing course for design majors, based upon philosophical issues and current professional practices in design. Clear analytical and critical writing in examination of these topics. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*DSGN 127 - Internship*

1-4 unit(s)

Experience in the methods and procedures employed by professional designers in consulting offices and corporate design departments. Professional responsibilities in local design offices on a weekly basis. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Completion of 3 units of DSIT 104, DSGD 186, or DSID 123, with GPA in major of at least 3.0, or instructor consent.

**Grading:** Credit/No Credit

*DSGN 148 - Intro Spatial Vis Tech in Urb Plan*

1-4 unit(s)

Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*DSGN 180 - Individual Studies*

1-3 unit(s)

Special topics or projects by arrangement with faculty.

**Prerequisite(s):** Art and design majors with upper division standing.

**Grading:** Credit/No Credit

*DSGN 183 - Special Topics in Design*

3 unit(s)

In-depth study of cultural and/or contemporary topics in the interdisciplinary design. Content changes each semester. Course repeatable when content changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*DSGN 192 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*DSGN 197 - BA Senior Project*

3 unit(s)

In-depth study of current issues in the design fields. Utilizes interdisciplinary approaches and concepts to provide a capstone experience for the design studies student.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** DSGD 99 and DSGD 100

**Grading:** Graded

*DSGN 248 - Spatial Visualization Tech in Urb Plan*

1-4 unit(s)

Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

**Grading:** Graded

*DSID 21 - Visualization I*

3 unit(s)

Presenting design concepts in both preliminary and finished states. Appraisal and application of media used in industry. Includes elements of color theory.

**Prerequisite(s):** Declared BA Design Studies or BS Industrial Design Major

**Corequisite(s):** DSID 31

**Grading:** Graded

*DSID 22 - Visualization II*

3 unit(s)

Sketching techniques commonly used by designers for communicating their concepts.

**Prerequisite(s):** DSID 21, BA Design Studies or BS Industrial Design majors only.

**Corequisite(s):** DSID 32

**Grading:** Graded

*DSID 31 - Industrial Design Foundation I*

3 unit(s)

Practical exploration of the basics of industrial design aesthetics. Introduction to the design process with special emphasis on 3D form development and presentation.

**Prerequisite(s):** Declared BS Industrial Design or BA Design Studies Major

**Corequisite(s):** DSID 21.

**Grading:** Graded

*DSID 32 - Industrial Design Foundation II*

3 unit(s)

Development and application of basic industrial design skills, methodology and aesthetics to elementary product



design. Project assignments leading from abstract exercises to actual product design.

**Prerequisite(s):** DSID 31; BA Design Studies or BS Industrial Design Majors Only

**Corequisite(s):** DSID 22

**Grading:** Graded

*DSID 32A - ID Portfolio Project I*

*1 unit(s)*

ID portfolio project class combines 2D and 3D skills from previous ID classes, in the first complete product design application. Complete presentation for ID faculty review required.

*Misc/Lab: Activity 2 hours*

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** DSID 21, DSID 31; BA Design Studies and BS Industrial Design Majors only.

**Corequisite(s):** DSID 22, DSID 32

**Grading:** Graded

*DSID 41 - Materials and Processes I*

*3 unit(s)*

Introduction to materials and manufacturing processes as they relate to product development and the Industrial Design profession.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** DSID 22, DSID 32; BS Industrial Design majors only; BA Design Studies majors with department consent.

**Grading:** Graded

*DSID 92 - Int'l Program Studies*

*1-6 unit(s)*

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mixed Grading

*DSID 121 - Industrial Design Process*

*3 unit(s)*

Explores how a conscious and rational approach can enhance creativity. Techniques used include goalsetting, brainstorming, time-management, evaluation matrices and journal keeping.

**Prerequisite(s):** DSID 125A, BS Industrial Design or HFS Graduate Majors Only, or Instructor consent

**Grading:** Graded

*DSID 122 - Cont. & Crit. Studies: Industrial Design*

*3 unit(s)*

This course thematically offers readings in Industrial Design theory, considers specific applications intended to

highlight problems in contemporary practice, and is divided into five modules. Course content and examples will be selected to complement the studio projects in the program.

*Misc/Lab: Lecture 3 hours/Lab 1 hours.*

**Prerequisite(s):** DSGN 100W; BA Design Studies or BS Industrial Design Majors Only.

**Grading:** Graded

*DSID 123 - Intermediate Industrial Design*

*3 unit(s)*

Design theories, methods and presentation techniques used by product designers in small scale product design. Stress application of knowledge of ergonomics, industrial materials and manufacturing processes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** DSID 32A. BS Industrial Design Majors only

**Grading:** Graded

*DSID 123A - ID Portfolio Project 2*

*3 unit(s)*

Provides instruction on integrating ergonomics (DSID 126), CAD (DSID 129), typography (DSGD 99 or equivalent), materials and processes (DSID 41), and at least two major design projects (DSID 123 and at least one Design Elective) into Intermediate Design Projects and Portfolio. Comprehensive presentation to ID faculty required.

**Prerequisite(s):** DSID 32A (Credit), BS Industrial Design Majors Only.

**Grading:** Credit/No Credit

*DSID 124 - Design for All*

*3 unit(s)*

Designing for as broad a percentage of the population as possible. Course focuses on accessible design despite physical, cognitive and/or socioeconomic obstacles. Course is repeatable for a total of 6 units.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 32A (Credit), BS Industrial Design Majors Only or Instructor Consent.

**Grading:** Graded

*DSID 125 - Advanced Industrial Design*

*3 unit(s)*

Advanced exploration of industrial design theory and practice with projects involving high levels of complexity of technological, functional and aesthetic constraints.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** DSID 123A. BS Industrial Design Majors only

**Grading:** Graded

*DSID 125A - ID Portfolio Project 3*

2 unit(s)

Development of design competition entry and cohesive portfolio using work created in prior and concurrent DSID courses by integrating advanced computer graphics and technology knowledge. Comprehensive presentation to ID faculty and invited professionals required.

**Prerequisite(s):** DSID 123A. BS Industrial Design Majors only

**Grading:** Credit/No Credit

*DSID 126 - Ergonomics for Design*

3 unit(s)

Aspects of products affecting human performance, comfort and safety. Emphasis on design of computer interfaces, automobiles and furniture. Topics include visual displays, anthropometry, seating design and safety design.

*Activity 6 hours.*

**Prerequisite(s):** BS Industrial Design Majors must complete DSID 22 and DSID 32. Interaction Design Minors must complete ANI 11 or DSID 22 or DSIT 10, and DSID 32 or DSGD 83.

**Grading:** Graded

*DSID 128 - Advanced Projects in Industrial Design*

3 unit(s)

Comprehensive, in-depth analysis and design of faculty-assigned projects as well as a student-proposed project. Student proposed projects must meet with the approval of the Industrial Design faculty.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** DSID 125A, DSGN 127; BS Industrial Design Majors Only

**Grading:** Graded

*DSID 128A - ID Portfolio Project 4*

1 unit(s)

Integration of business and advanced technologies into the special graduating project. Final show and presentation for ID faculty and invited professionals required.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** DSID 125A, DSID 128, DSGN 127; BS Industrial Design Majors Only.

**Grading:** Credit/No Credit

*DSID 129 - Visualization III*

3 unit(s)

Principles of computer graphics, computer-aided technology and applications in industrial design. Emphasis on the transition from 2D applications to 3D applications.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** DSID 22, DSID 32; BS Industrial Design Majors only; BA Design Studies with Department consent.  
**Grading:** Graded

*DSID 130 - Sustainable Design*

*3 unit(s)*

Design products with a focus on minimizing their impact on the environment. The entire lifespan of designed and manufactured products will be explored. Course is repeatable for credit for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** DSID 32A (Credit); BS Industrial Design Majors only, or Instructor Consent  
**Grading:** Graded

**Note(s):** Offered only occasionally.

*DSID 131 - Interaction Design*

*3 unit(s)*

Advanced practical applications of interaction design theory, with an emphasis on strategies for software products including aspects of both UX (user-experience) and UI (user-interface) design.

*Activity 6 hours.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** DSID 126.  
**Grading:** Graded

*DSID 132 - Softgoods*

*3 unit(s)*

Design of products that incorporate soft materials and textiles in their construction. Products include furniture, clothing, shoes, and other products that contribute to current lifestyles.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 32A (Credit); BS Industrial Design Majors only; or Instructor's Consent  
**Grading:** Graded

*DSID 133 - Design Projects: Making It*

*3 unit(s)*

Students take an idea from concept to actual product (and multiples of the product) in one semester. The course ends with the creation of a store and the sale of the products produced.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 32A credit or instructor permission.  
**Grading:** Graded

*DSID 134 - Design and Meaning*

3 unit(s)

This course will focus on the formal properties of products to better understand how design addresses and projects meaning as it relates to designed and manufactured objects. Coursework will explore this via experiments in specification and fabrication.

**Prerequisite(s):** DSID 32A; BS Industrial Design Majors Only

**Grading:** Graded

*DSID 135 - Design, Entrepreneurship, Intellectual Property and Professional Practice*

3 unit(s)

Strategies for entering the profession as a business owner or design entrepreneur. Course includes the exploration of past and future business models as well as issues of intellectual property protection.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 123A or Instructor Permission.

**Grading:** Graded

*DSID 136 - Advanced Digital Workshop*

3 unit(s)

Advanced Digital modeling and prototyping tools for Industrial Design.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 129; BA Design Studies or BS Industrial Design Majors only, or Instructor Consent

**Grading:** Graded

*DSID 137 - Advanced Physical Prototyping*

3 unit(s)

Advanced Prototyping techniques for Industrial Design including patternmaking, sewing and casting.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 32, DSID 41; BA Design Studies or BS Industrial Design Majors only.

**Grading:** Graded

*DSID 143 - Advanced Materials, Process & Technology*

3 unit(s)

Advanced Materials, Processes and Technology will enhance themes covered in Materials and Processes coursework with the addition of study of the relevance and implications of advanced materials and technologies on designed artifacts.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DSID 32, DSID 41; BA Design Studies or BS Industrial Design Majors only, or instructor consent.

**Grading:** Graded

*DSID 144 - Design for Healthcare*

3 unit(s)

Introduction to unique theories and challenges associated with the design of objects, experiences and services related to healthcare. Focuses on the application of patient-centered design theories for the betterment of patient experiences and patient-provider relationships.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** DSID 123 or instructor consent

**Grading:** Graded

*DSID 176B - Industrial Design in Society*

3 unit(s)

History of industrial design since 1900. Course covers practice and theories of major industrial designers and design movements in the context of social attitudes toward consumption, production, and aesthetics.

**Prerequisite(s):** ARTH 72 or instructor consent.

**Grading:** Graded

*DSID 192 - International Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*DSID 226 - Ergonomics for Design*

3 unit(s)

Aspects of products affecting human performance, comfort and safety. Emphasis on design of computer interfaces, automobiles and furniture. Topics include visual displays, anthropometry, seating design, and safety design.

**Prerequisite(s):** Graduate status in Human Factors/Ergonomics (HFE) or instructor consent.

**Grading:** Graded

*DSIT 5 - Introduction of Interior Design and Architecture*

3 unit(s)

A comprehensive introduction to the field of Interior Architecture. Focuses on social, psychological, economic and aesthetic challenges facing designers in the 21st century. Integration of design principles, creative expression and consumer information pertaining to living environments and public spaces.

**Grading:** Graded

*DSIT 10 - Sketching, Drawing + Modeling*

3 unit(s)

Explore the processes of conceptual sketching and drawing. Utilize and teach architectural documentation techniques such as interior: floor plans, reflected ceiling plans, elevations, sections, details, perspectives and axonometric drawings. Demonstrate techniques in pencil, contemporary pens, markers, and artistic visualization techniques.

**Corequisite(s):** DSIT 5

**Grading:** Graded

*DSIT 29 - Design Process*

*3 unit(s)*

Development of skills to work with point, line and plane to create volumes with spatial relationships.

**Grading:** Graded

*DSIT 33 - Architectural Presentation*

*3 unit(s)*

Further study, exploration, and comprehensive development of the technical and conceptual aspects of architectural drawing and modelmaking used to visualize innovative and functional interior spaces.

**Prerequisite(s):** DSIT 29

**Corequisite(s):** DSIT 34

**Grading:** Graded

*DSIT 34 - Interior Architecture Foundation Studio*

*3 unit(s)*

In-depth study exploration and comprehensive development of innovative and functional interior spaces using the technical and conceptual aspects of architectural drawing and architectural model making and the theoretical and conceptual methodologies used to formulate interior architectural space. Course emphasizes design theory, process, programming and human factors. Focus on residential and small-scale commercial building types.

*Misc/Activity: Activity 6 hours*

**Prerequisite(s):** DSIT 29

**Corequisite(s):** DSIT 33

**Grading:** Graded

*DSIT 83 - Visual Communication I*

*3 unit(s)*

Principles of digital drawing and presentation tools essential to 2D architectural representation. Principle skills and disciplines of making 3D forms through the use of digital technology.

*Misc/Lab: Activity 6 hours*

**Prerequisite(s):** DSIT 5, DSIT 10.

**Corequisite(s):** DSIT 015, DSIT 29.

**Grading:** Graded

*DSIT 88 - Visual Communication II*

*3 unit(s)*

Introduction to Building Information Modeling concepts, practices, and drafting techniques. Using parametric 3D modeling software, students will create a virtual architectural model that will aid in the creation of construction documents and design presentation materials.

**Prerequisite(s):** DSIT 5, DSIT 10.  
**Corequisite(s):** DSIT 33, DSIT 34.  
**Grading:** Graded

*DSIT 98 - Architectural Forum*

3 unit(s)

Discussion and analysis of the processes of interior architecture; lectures and field trips emphasizing critical thinking, communication skills and professional ethics.

**Prerequisite(s):** ART 1.  
**Grading:** Graded

*DSIT 100 - Building Codes*

3 unit(s)

Introduction to building codes and legal regulations related to interior architecture design. Egress, occupancy levels, regulations for the handicapped, general accessibility requirements, finishes and material specifications and fire ratings are highlighted in the class.

*Misc/Lab: Activity 6 hours.*

**Prerequisite(s):** DSIT 34.  
**Grading:** Graded

*DSIT 101 - Architectural Systems and Materials + Adv Modeling*

3 unit(s)

This course covers the functional, aesthetic and environmental aspects of building materials and systems focusing on the documentation of design through BIM software.

*Misc/Lab: Lecture 3 hours/Activity 4 hours.*

**Prerequisite(s):** DSIT 33, DSIT 34  
**Grading:** Graded

*DSIT 102 - Computer Graphics for Interior Architecture*

3 unit(s)

Examination of programs related to the development of state of the art presentation methods and portfolios.

**Prerequisite(s):** DSIT 34.  
**Grading:** Graded

*DSIT 103 - Interior Architecture Conceptual Design Studio*

3 unit(s)

Organize programmatic adjacencies and allocate planned spaces based on a singular design concept or objective. Conceptualize and execute a design through the use of 3D modeling software, digital animation and analogue methods of fabrication. Site analysis, formal, thermal and material issues problem-solving, iterative and rigorous production, experimentation, and research. Presentation of work to a jury.



*Misc/Lab: Activity 6 hours*

**Prerequisite(s):** DSIT 33, DSIT 34

**Corequisite(s):** DSIT 102

**Grading:** Graded

*DSIT 104 - Interior Architecture Space Planning Studio*

*3 unit(s)*

Further project-oriented study, examination and analysis of planning and designing innovative and functional interior spaces. Emphasis on the space planning of state of the art commercial environments. Additional emphasis on implementation and interpretation of laws, codes and regulations. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** DSIT 103 and pass portfolio review .

**Grading:** Graded

*DSIT 105 - Interior Architecture Advanced Design Studio*

*3 unit(s)*

In-depth project oriented study, examination and analysis of planning and designing innovative and functional interior spaces. Emphasis on the advanced design of state of art commercial environments. Additional emphasis on implementation and interpretation of laws, codes and regulations.

**Prerequisite(s):** DSIT 103, and pass portfolio review.

**Grading:** Graded

*DSIT 106 - Architectural Project Materials*

*3 unit(s)*

Discussion and analysis of materials for interior architecture lectures and field trips emphasizing aesthetic sensibilities, human factors, manufacturing processes and specifications.

**Prerequisite(s):** DSIT 34.

**Grading:** Graded

*DSIT 107 - Furniture Design*

*3 unit(s)*

Design and production of original furniture, including drawing, prototypes and materials selection.

**Prerequisite(s):** DSIT 34 or instructor consent.

**Grading:** Graded

*DSIT 108 - Architectural Lighting Design*

*3 unit(s)*

Theory and practice of architectural lighting emphasizing aesthetics, drawing, specifications, terminology, calculations and advances in technology. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** DSIT 103, DSIT 104 or upper division standing and instructor consent.

**Grading:** Graded

*DSIT 109 - Object Design for Interiors*

*3 unit(s)*

Advanced exploration of object design theory and practice with projects involving high levels of aesthetic and functional complexity.

**Prerequisite(s):** DSIT 105, DSIT 106 and DSIT 108.

**Grading:** Graded

*DSIT 110 - Capstone Thesis Studio*

*3 unit(s)*

Students will select an appropriate project type, determine the site, prepare existing drawings, write a project statement and program, and develop a design solution. Work must be presented to a jury of professionals, and exhibited in a thesis exhibition.

**Prerequisite(s):** DSIT 104, DSIT 105.

**Grading:** Graded

*DSIT 111 - Interior Architecture Seminar*

*3 unit(s)*

A capstone course for discussion of design work and professional values as a basis for portfolio and resume preparation.

**Prerequisite(s):** DSIT 105 and enrollment in graduation semester.

**Grading:** Graded

*DSIT 112 - Professional Practice of Interior Archit*

*3 unit(s)*

Examination of the business, legal, financial, and managerial considerations of interior design practice as well as the role and responsibilities of a design assistant, with emphasis on ethical considerations and the legal issues of the profession and licensing.

**Prerequisite(s):** DSIT 100.

**Grading:** Graded

*DSIT 116 - Solar Energy Analysis*

*3 unit(s)*

Provides a comprehensive overview of sustainable solar energy resources, economics, and policy. Includes a review of basic solar energy physics and interdisciplinary analysis of economic, social justice and environmental strategies for a solar powered civilization.

**Prerequisite(s):** ENVS 119, PHYS 2A, and PHYS 2B or instructor consent

**Grading:** Graded

*DSIT 132 - Solar Home Design*

3 unit(s)

Techniques for designing environmentally-sensitive, healthy, passive solar homes via site selection, energy conservation, lighting, non-hazardous natural building materials. Residential passive solar heating and cooling approaches for retrofits and new construction. For homeowners, teachers, professional designers and architects.

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*DSIT 151 - Introduction to Urban Design*

4 unit(s)

Principles, goals and methods of the urban design process. Urban design as the comprehensive treatment of the human-made environment.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*DSIT 152 - Introduction to Urban Design Studio*

4 unit(s)

Introduction to the analysis of alternative urban design policies to direct urban form development. Course may be repeated for credit when topic changes.

*Misc/lab: Activity 6 hours.*

**Prerequisite(s):** URBP 151 or instructor consent.

**Grading:** Graded

*DSIT 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Graded

*DSIT 192C - History of Interior Design*

3 unit(s)

Survey of interior design through historical, political, social, economic, technological, and aesthetic factors that shape the built environment. Design will be analyzed formally and through parallel developments in the arts.

**Prerequisite(s):** ARTH 70B or ARTH 72, completion of Area Z, or instructor consent.

**Grading:** Graded

## Department of English and Comparative Literature

**Office:** Faculty Offices 102

**Telephone:** 408-924-4425

**Email:** english@sjsu.edu

**Website:** [www.sjsu.edu/english](http://www.sjsu.edu/english)

### **Professors**

Angela Noelle Brada-Williams, Chair  
Adrienne Eastwood  
Katherine Harris  
Revathi Krishnaswamy  
Samuel Maio  
Richard McNabb  
Kathleen McSharry  
Cathleen Miller  
Linda Mitchell  
Thomas Moriarty  
Susan Shillinglaw  
Alan Soldofsky  
Nancy P. Stork  
Nicholas Taylor  
Mary Warner

### **Associate Professors**

Balance T.P. Chow  
Mark Thompson

### **Assistant Professors**

Selena Anderson  
Cindy Baer  
Joshua Coleman  
Meghan Gorman-DaRif  
Scott Jarvie  
Allison Johnson  
Jennifer Johnson  
Keenan Norris  
Ryan Skinnell  
Jose Juan Villagrana  
Sara West

## **Overview**

Study with award-winning teachers and professional writers. Develop editing and production skills by working on Reed Magazine, one of the oldest literary journals in the West. Prepare for a variety of careers in teaching, career and technical writing, or advanced study in English, law and medicine. The Department of English and Comparative Literature offers programs in English, American, world, and comparative literature, and creative and professional writing. Our MA prepares students for teaching careers or doctoral studies. Our MFA in creative writing trains professional writers in the history and craft of poetry, creative nonfiction, fiction, script- and screen-writing. Home to the Steinbeck Fellows and the Lurie Visiting Distinguished Author programs, the department also houses the Center for Literary Arts, which brings distinguished poets, fiction writers and creative nonfiction writers to campus to give public readings.

## **Undergraduate Honors Program**

Upper-division students with a minimum grade point average of 3.0 overall and 3.5 in the major are eligible for Departmental Honors. Honors students complete an ENGL 190 - Honors Colloquium. Application to the honors program should be made through the English Department Office.

## Undergraduate

### English, BA

- Department of English and Comparative Literature
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Preparation	6-16
Major Core Requirements	24-25
English Concentration	20
Major Elective	3-4
University Electives	17-29
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

### University Requirements (38 units)

#### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6-16 units)

- One year of foreign language study at the college level or equivalency through examination *0-10 unit(s)*
- ENGL 2 - Critical Thinking and Writing *3 unit(s) (A3)*

## Complete one course (3 units):

- ENGL 1A - First Year Writing *3 unit(s) (A2)*
- ENGL 1AS - First-Year Writing: Stretch English II *3 unit(s) (A2)*
- HUM 1B - Honors - World Cultures and Societies B *6 unit(s) (A2)*  
*A grade of C- or better is required to meet graduation requirement.*

## Major Requirements (47-49 units)

### Core Courses (24-25 units)

- ENGL 50 - Beginnings to the American Experiment *3 unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) *4 unit(s)*
- ENGL 70 - Emerging Modernisms and Beyond *3 unit(s)*
- ENGL 100W - Writing Workshop *4 unit(s) (Z)*

### Literature for Global Understanding (3 units)

Complete one course:

- ENGL 123A - Literature for Global Understanding-The Americas *3 unit(s) (V)*
- ENGL 123B - Literature for Global Understanding-Africa *3 unit(s) (V)*
- ENGL 123C - Literature for Global Understanding-Oceania *3 unit(s) (V)*
- ENGL 123D - Literature for Global Understanding-Asia *3 unit(s) (V)*

### Shakespeare (4 units)

Complete one course:

- ENGL 144 - Shakespeare I *4 unit(s)*
- ENGL 145 - Shakespeare and Performance *4 unit(s)*

### American Literature & Ethnicity (3-4 units)

Complete one course:

- ENGL 165 - Topics in Ethnic American Literature *4 unit(s)*
- ENGL 169 - Ethnicity in American Literature *3 unit(s) (S)*

### English Concentration (20 units)

- ENGL 101 - Introduction to Literary Criticism *4 unit(s)*
- ENGL 125 - European Literature: Homer through Dante *4 unit(s)*

### Complete 12 units:

- ENGL 113 - Gothic Novel and Horror Fiction *4 unit(s)*
- ENGL 115 - The Bible as Literature *4 unit(s)*
- ENGL 116 - Myth in Literature *4 unit(s)*
- ENGL 117A - American Literature, Film, & Culture *3 unit(s)* or
- ENGL 117B - Global Film, Literature, and Cultures *3 unit(s)*
- ENGL 121 - Introduction to Comparative Literature *4 unit(s)*
- ENGL 122 - Topics in Comparative World Literature *4 unit(s)*
- ENGL 126 - Holocaust Literature *3 unit(s)*
- ENGL 140A - Old English *4 unit(s)*
- ENGL 140B - Beowulf *4 unit(s)*
- ENGL 141 - Medieval Literature *4 unit(s)*
- ENGL 142 - Chaucer *4 unit(s)*
- ENGL 146 - Studies-Early Modern British Literature *4 unit(s)*
- ENGL 147 - Milton *4 unit(s)*
- ENGL 148 - British Literature: 1660-1800 *4 unit(s)*
- ENGL 149 - The Romantic Period *4 unit(s)*
- ENGL 150 - The Victorian Age *4 unit(s)*
- ENGL 151 - Twentieth Century Poetry *4 unit(s)*
- ENGL 152 - Studies in British Drama before 1800 *4 unit(s)*
- ENGL 153 - Studies in the British Novel Before 1900 *4 unit(s)*
- ENGL 162 - Studies-American Literature Before 1865 *4 unit(s)*
- ENGL 163 - American Literature: 1865-1945 *4 unit(s)*
- ENGL 165 - Topics in Ethnic American Literature *4 unit(s)*  
*(only if not used to satisfy Core Courses)*
- ENGL 166 - American Literature Since 1945 *4 unit(s)*
- ENGL 167 - Steinbeck *4 unit(s)*
- ENGL 168 - The American Novel *4 unit(s)*
- ENGL 169 - Ethnicity in American Literature *3 unit(s)*  
*(only if not used to satisfy Core Courses)*
- ENGL 176 - The Short Story *4 unit(s)*
- ENGL 177 - Topics in Fiction Since 1900 *4 unit(s)*
- ENGL 182 - Women in Literature *4 unit(s)*
- ENGL 183 - Major Authors *4 unit(s)*

### Major Elective (3-4 units)

- Any one upper division English Course *3-4 unit(s)*

### University Electives or Minor (17-29 units)

### Total Units Required (120 units)



### Explanations and Limitations

English majors who complete the Humanities Honors Program (HUM 1A, HUM 1B, HUM 2A, HUM 2B) will be credited for ENGL 125A.

Details and advising information on the above requirements are available in the Department of English and Comparative Literature.

## English, Creative Writing Concentration, BA

- Department of English and Comparative Literature
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Preparation	9-19
Major Core Requirements	24-25
Concentration Requirements	16
Major Elective	3-4
University Electives	18-30
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (9-19 units)

- ENGL 71 - Creative Writing 3 *unit(s)* (C2)
- One year of foreign language study at the college level or equivalency through examination 0-10 *unit(s)*
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3)

## Complete one course (3 units):

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 1AS - First-Year Writing: Stretch English II 3 *unit(s)* (A2)
- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* (A2)  
*A grade of C- or better is required to meet graduation requirement.*

## Major Requirements (43-45 units)

### Core Courses (24-25 units)

- ENGL 50 - Beginnings to the American Experiment 3 *unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) 4 *unit(s)*
- ENGL 70 - Emerging Modernisms and Beyond 3 *unit(s)*
- ENGL 100W - Writing Workshop 4 *unit(s)* (Z)

### Literature for Global Understanding (3 units)

Complete one course:

- ENGL 123A - Literature for Global Understanding-The Americas 3 *unit(s)* (V)
- ENGL 123B - Literature for Global Understanding-Africa 3 *unit(s)* (V)
- ENGL 123C - Literature for Global Understanding-Oceania 3 *unit(s)* (V)
- ENGL 123D - Literature for Global Understanding-Asia 3 *unit(s)* (V)

### Shakespeare (4 units)

Complete one course:

- ENGL 144 - Shakespeare I 4 *unit(s)*
- ENGL 145 - Shakespeare and Performance 4 *unit(s)*

### American Literature & Ethnicity (3-4 units)

Complete one course:

- ENGL 165 - Topics in Ethnic American Literature 4 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)* (S)

### Creative Writing Concentration (16 units)

Courses may be repeated a maximum of 2 times. Complete four courses from:

- ENGL 130 - Writing Fiction 4 unit(s)
- ENGL 131 - Writing Poetry 4 unit(s)
- ENGL 133 - Reed Magazine 4 unit(s)
- ENGL 135 - Writing Nonfiction 4 unit(s)
- ENGL 178 - Creative Nonfiction 4 unit(s)

### Major Elective (3-4 units)

- Any one upper division English Course 3-4 unit(s)

### University Electives or Minor (18-30 units)

### Total Units Required (120 units)

## English, Preparation for Teaching (Single Subject), BA

The following course work satisfies San José State University's requirements for a BA in English. The BA- English Preparation for Teaching, offered by the Department of English and Comparative Literature, is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree program, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	38
Major Preparation	6-16
Major Core Requirements	24-25
Concentration Electives	20
Major Elective	3-4
University Electives	17-29
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6-16 units)

- One year of foreign language study at the college level or equivalency through examination 0-10 *unit(s)*
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3)

## Complete one course (3 units):

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 1AS - First-Year Writing: Stretch English II 3 *unit(s)* (A2)
- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* (A2)  
*A grade of C- or better is required to meet graduation requirement.*

## Major Requirements (47-49 units)

### Core Courses (24-25 units)

- ENGL 50 - Beginnings to the American Experiment 3 *unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) 4 *unit(s)*
- ENGL 70 - Emerging Modernisms and Beyond 3 *unit(s)*
- ENGL 100W - Writing Workshop 4 *unit(s)* (Z)

### Literature for Global Understanding (3 units)

Complete one course:

- ENGL 123A - Literature for Global Understanding-The Americas 3 *unit(s)* (V)
- ENGL 123B - Literature for Global Understanding-Africa 3 *unit(s)* (V)

- ENGL 123C - Literature for Global Understanding-Oceania 3 *unit(s)* (V)
- ENGL 123D - Literature for Global Understanding-Asia 3 *unit(s)* (V)

### Shakespeare (4 units)

- ENGL 145 - Shakespeare and Performance 4 *unit(s)*

### American Literature & Ethnicity (3-4 units)

Complete one course:

- ENGL 165 - Topics in Ethnic American Literature 4 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)* (S)

### Major Elective (3-4 units)

- Any one upper division English Course 3-4 *unit(s)*

### Single Subject Concentration (20 units)

- ENGL 101 - Introduction to Literary Criticism 4 *unit(s)*
- ENGL 103 - Modern English 4 *unit(s)*
- ENGL 109 - Writing and the Young Writer 4 *unit(s)*
- ENGL 112B - Literature for Young Adults 4 *unit(s)*
- ENGL 125 - European Literature: Homer through Dante 4 *unit(s)*

### University Electives or Minor (11-24 units)

### Total Units Required (120 units)

## English, Professional and Technical Writing Concentration, BA

- Department of English and Comparative Literature
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 6-16

Major Core Requirements 24-25

Concentration Requirements 20

Major Elective	3-4
University Electives	17-29
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 unit(s) (D2)



- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (6-16 units)

- One year of foreign language study at the college level or equivalency through examination 0-10 *unit(s)*
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3)

### Complete one course (3 units):

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 1AS - First-Year Writing: Stretch English II 3 *unit(s)* (A2)
- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* (A2)  
*A grade of C- or better is required to meet graduation requirement.*

### Major Requirements (47-49 units)

### Core Courses (24-25 units)

- ENGL 50 - Beginnings to the American Experiment 3 *unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) 4 *unit(s)*

- ENGL 70 - Emerging Modernisms and Beyond 3 *unit(s)*
- ENGL 100W - Writing Workshop 4 *unit(s)* (Z)

### Literature for Global Understanding (3 units)

Complete one course:

- ENGL 123A - Literature for Global Understanding-The Americas 3 *unit(s)* (V)
- ENGL 123B - Literature for Global Understanding-Africa 3 *unit(s)* (V)
- ENGL 123C - Literature for Global Understanding-Oceania 3 *unit(s)* (V)
- ENGL 123D - Literature for Global Understanding-Asia 3 *unit(s)* (V)

### Shakespeare (4 units)

Complete one course:

- ENGL 144 - Shakespeare I 4 *unit(s)*
- ENGL 145 - Shakespeare and Performance 4 *unit(s)*

### American Literature & Ethnicity (3-4 units)

Complete one course:

- ENGL 165 - Topics in Ethnic American Literature 4 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)* (S)

### Professional and Technical Writing Concentration (20 units)

- ENGL 103 - Modern English 4 *unit(s)*
- ENGL 106 - Editing for Writers 4 *unit(s)*
- ENGL 107 - Professional Technical Writing 4 *unit(s)*

Complete two courses (4 units):

- ENGL 105 - Seminar in Advanced Composition 4 *unit(s)*
- ENGL 110 - Visual Rhetoric and Digital Document Design for Writers 4 *unit(s)*
- ENGL 111 - Writing Online: Strategic Digital Content and Social Media 4 *unit(s)*
- ENGL 129 - Introduction to Career Writing 4 *unit(s)*
- ENGL 157 - Topics in Rhetorical Analysis 4 *unit(s)*

### Major Elective (3-4 units)

- Any one upper division English Course 3-4 *unit(s)*

### University Electives or Minor (17-29 units)

Total Units Required (120 units)

## Master

### Creative Writing, MFA

The Master of Fine Arts degree in Creative Writing, offered by the Department of English and Comparative Literature, is the recognized terminal degree that offers the minimum professional training deemed necessary by the major schools in the United States for university and college teaching and for positions in the publishing industry. It is also the degree most frequently held by professional writers.

For additional information, please see the program website at [www.sjsu.edu/english/graduate/mfa](http://www.sjsu.edu/english/graduate/mfa).

## Admissions Requirements

### Requirements for Admission to Classified Standing

Applicants must meet university requirements for admission to the Graduate Division and classified standing as outlined in this catalog. In addition, they must meet the following department requirements:

- Earned a 3.0 grade point average in major courses.
- Demonstrate ability in Creative Writing by submitting a creative writing portfolio in Fiction (20-30 pages), Creative Nonfiction (20-30 pages), Poetry (10 pages), or Scriptwriting (20-30 pages).
- Be approved by the departmental MFA in Creative Writing Committee. For each annual cycle, applications are due by March 1, when the review will begin.

Achieved one of the following:

- Possess a bachelor's degree or master's degree in English, Creative Writing, or a related field from an accredited institution.
- Passed a minimum of 12 semester hours in English, Creative Writing, or a related field beyond freshman composition.
- Demonstrated equivalent literary training or experience as determined by the Director of the MFA in Creative Writing Program.

Additional preparation may be required before a student can be considered for classified status in the degree program, at the discretion of the MFA Director (see *Requirements for Admission to Conditionally Classified Standing*).

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

### Requirements for Admission to Conditionally Classified Standing

Students who do not qualify for classified standing but who meet university requirements for graduate admission and whose past performance and creative writing ability gives promise of satisfactory completion of requirements for admission to classified graduate standing may, with the approval of the departmental MFA in Creative Writing Committee, be admitted as conditionally classified in the MFA program.

# Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the classified graduate student is fully qualified to complete the final stages of the MFA in Creative Writing program and is thus eligible to enroll in ENGL 291 - Lit Practicum and ENGL 299 - University Thesis. In order to advance to candidacy, the student must meet the university requirements for advancement to candidacy as outlined in this catalog. The university requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. Most graduate-level literary seminars meet the GWAR. For graduate courses that meet the GWAR, please refer to the GWAR Course List on the College of Graduate Studies website. In addition, the student must:

- complete 24 units of an approved 44-unit program with a GPA of 3.0 or better. At least one-half of these units must be graduate-level (i.e., 200-numbered) courses. Any upper-division courses to be applied to the MFA must be approved in advance by the MFA Director.
- formalize his or her MFA thesis committee by obtaining the signatures of three university faculty members (two must be members of the Creative Writing or English faculty) to serve as members of the student's committee. A tenure-line Creative Writing faculty member who teaches in the student's major area of emphasis must serve as chair.
- propose to write a substantial full-length work, with critical introduction or preface (see below), in one of the four program emphases: Poetry, Fiction, Nonfiction, or Script Writing.
- sign up to take the MFA Comprehensive Examination, which a student must pass before an MFA degree is awarded.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

All candidates for the MFA degree in Creative Writing must complete a book-length thesis in their primary genre. The thesis must be approved by a three-member committee, of which at least two members must be full-time SJSU faculty. Thesis committees and projects are declared in the Departmental Thesis Proposal, which is submitted to the Graduate Committee of the Department of English & Comparative Literature the semester before the candidate registers for four units of ENGL 298D or ENGL 299.

At the time of filing for candidacy, MFA candidates must select from two options for filing the final documents. Plan A (Thesis), which we refer to as a University Thesis, will require enrollment in ENGL 299, and the resulting thesis will be reviewed by the College of Graduate Studies and published online, as described below. Plan B (Project), which the Department of English and Comparative Literature refers to as a Departmental Thesis, will require enrollment in ENGL 298D and is considered by the university as a "project" and thus not subject to review by the College of Graduate Studies nor to the policy requiring university theses to be published. Please note that the departmental requirements for the thesis itself as well as the composition of the thesis committee are the same under both options.

Candidates select their Thesis Plan on the Petition for Advancement to Graduate Candidacy form, typically submitted the semester prior to graduation (e.g., in October for May graduation, or in April for December graduation). Although the Candidacy Form lists three plans -- A, B, and C -- MFA candidates may select only Plan A or Plan B.

### Plan A (Thesis): University Thesis

After approval by the three-member thesis committee, MFA candidates submit the final manuscript as a PDF to the University's College of Graduate Studies, where it is checked for format. Once certified by Graduate Studies, the PDF is published in two places: on ProQuest (a commercial academic publisher) and on ScholarWorks (the University's open-access repository). Distribution through these two channels assures that research generated by SJSU students is available to as many readers as possible. Candidates who wish to shield their work from public view temporarily, for example to allow time for commercial publication, can request an embargo of up to five years. After the embargo expires, candidates can ask for an extension or allow the document to be released online. It is possible for access to be restricted to users of the SJSU campus network. Embargo and access options are chosen by candidates when they submit their theses to Graduate Studies.

Only theses submitted via Plan A are eligible for the University's Outstanding Thesis Award, a distinction given annually to the one or two exceptional theses in the entire university. The award is presented at graduation and includes a monetary stipend. Candidates should ask their thesis directors or department chairs for more information about this award.

### **Plan B (Project): Departmental Thesis**

Under this option, the thesis manuscript is prepared according to University guidelines and approved by a three-member thesis committee, and then signed off by the Chair of the Graduate Committee and the Department Chair. The manuscript is not submitted to the College of Graduate Studies. Instead, candidates may deposit a printed, bound copy of their thesis in the collection of the Department of English & Comparative Literature and, optionally, on the thesis shelf of the University Library (binding paid for by the candidate). Because the Departmental Thesis is never published online, this option makes sense for MFA candidates who wish to give their work the maximum possible protection. It is recommended for those students who wish to protect the copyright of their creative work for future publication.

Departmental Theses are neither eligible for the University's Outstanding Thesis Award nor for nomination to the Proquest Thesis Award.

## Masters Requirements (44 units)

### Core Courses (4 units)

- ENGL 291 - Lit Practicum *4 unit(s)*

### Workshops (20 units)

Complete 12 units in primary genre and 8 units in secondary genre from the following.

The workshop courses are all repeatable for credit as long as the topic has changed:

- ENGL 240 - Poet Writ Workshop *4 unit(s)*
- ENGL 241 - Fic Writ Workshop *4 unit(s)*
- ENGL 242 - Nonfiction Writing Workshop *4 unit(s)*

### Literary Research (8 units)

Complete eight units from:

- ENGL 202 - Poetic Craft and Theory *4 unit(s)*
- ENGL 203 - Narrative Craft and Theory *4 unit(s)*
- ENGL 204 - Seminar in Modern Approaches to Literature *4 unit(s) (GWAR)*

- ENGL 208 - Seminar in Comparative Literature *4 unit(s) (GWAR)*
- ENGL 211 - Seminar in Twentieth Century Poetry *4 unit(s) (GWAR)*
- ENGL 215 - Seminar in Myth and Symbolism *4 unit(s) (GWAR)*
- ENGL 216 - Seminar in Medieval English Literature *4 unit(s) (GWAR)*
- ENGL 224 - Studies in English Early Modern Literature *4 unit(s) (GWAR)*
- ENGL 225 - Seminar in Shakespeare *4 unit(s) (GWAR)*
- ENGL 228 - Seminar in Genre Studies *4 unit(s) (GWAR)*
- ENGL 230 - Seminar in Eighteenth Century British Literature *4 unit(s) (GWAR)*
- ENGL 232 - Seminar in Romanticism *4 unit(s)*
- ENGL 233 - Seminar in the Victorian Period *4 unit(s) (GWAR)*
- ENGL 253 - Seminar in Period Studies of American Literature *4 unit(s) (GWAR)*
- ENGL 254 - Seminar in Genre Studies of American Literature *4 unit(s) (GWAR)*
- ENGL 255 - Seminar in Thematic Studies of American Literature *4 unit(s) (GWAR)*
- ENGL 256 - Seminar in Twentieth Century British Literature *4 unit(s) (GWAR)*

## Professional Development (8 units)

Complete eight units from:

- ENGL 133 - Reed Magazine *4 unit(s)*
- ENGL 257 - Seminar in the History of Rhetoric *4 unit(s)*
- ENGL 259 - Seminar in Composition Studies *4 unit(s)*
- ENGL 298 - Special Study *1-6 unit(s)*
- Other literary research classes with consent of advisor

## Culminating Experience (4 units)

### Plan A (Thesis)

- ENGL 299 - University Thesis *1-6 unit(s) (4 units required)*
- Comprehensive Exam
- Foreign Language Requirement

### Plan B (Project)

- ENGL 298D - Departmental Thesis or Project *1-6 unit(s) (4 units required)*
- Comprehensive Exam
- Foreign Language Requirement

## Total Units Required (44 units)

\*Note that College of Graduate Studies requires all creative works that serve as theses (novels, poetry collections, screen plays, and so forth) to be accompanied by a preface. At a minimum of 10 pages, the preface should put the creative work in historical, cultural, literary, or other contexts. It should also expound on the literary influences on the student. The text must be written according to a style guide, APA being the guide of choice in the English and Comparative Literature Department, and include formal literature citations and a References Cited section, both written in accordance with the style guide rules.

Elective courses must be planned in consultation with the English MA Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## English, MA

The written word grounds the Master of Arts in English. Its students learn to analyze literature and to write on literary topics at an advanced level. Students complete a rigorous program of courses that introduce them to cutting-edge research while training them to understand a range of theoretical and literary-historical frameworks for understanding literature. Before students earn a Master of Arts in English, they pass a two-part comprehensive exam. They also may choose to write a thesis. Students have the option to engage in graduate study in rhetoric and to train as college-level writing teachers. The program also offers students pathways to prepare for doctoral work.

Additional information is available in the Department of English and Comparative Literature Office and on the department website: [www.sjsu.edu/english/graduate/ma](http://www.sjsu.edu/english/graduate/ma).

## Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Master of Arts in English. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

## Admission to Classified Standing

In addition to meeting the minimum university admission requirements for admissions to the Graduate Division as outlined in this catalog, applicants must have:

- 3.0 grade point average in English or literature courses.
- a minimum of 24 semester hours of acceptable undergraduate upper-division course work in English or other literary studies.
- Earned 2 semesters (3 quarters) credit in foreign language course or have the equivalent fluency as attested to by a credible academic source.
- Approval by the department graduate committee.

In addition to the university application requirements, applicants to the English MA must submit a writing sample directly to the MA advisor.

## Admission to Conditionally Classified Standing

Applicants who do not qualify for classified standing but who do meet university requirements for graduate admission and whose past performance gives promise of satisfactory completion of requirements for graduate admission to classified standing may, with approval of the department graduate committee, be admitted as conditionally classified in the English MA program. Generally, this category is used if the applicant has not yet earned the equivalent fluency

of 2 semesters/3 quarters of credit in a foreign language course OR an applicant has not yet completed 24 units of upper-division coursework in literature but otherwise shows promise as a graduate student.

## Requirements for Advancement to Graduate Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA, English. In order to achieve candidacy, students must meet the university requirements. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MA, English students must complete ENGL 201, the program GWAR course, before they can apply for candidacy. Application for advancement to candidacy should be done by the middle of the semester before students intend to graduate.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA - English Graduation Requirements

Students must complete an approved 30-unit program with a grade point average of 3.0 or better. At least 21 of these units must be graduate-level (i.e., 200-numbered) courses. Any undergraduate coursework to be applied to the MA program must be approved in advance by the graduate advisor.

Included in these 30 units, are the ENGL 201 and ENGL 297. The ENGL 297 requirement will be waived if a student completes a thesis (which requires 6 units of ENGL 299 in lieu ENGL 297 and one 4-unit graduate-level course).

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

Students choose Plan A (Thesis) or Plan B (Comprehensive Examinations) as their program culminating experience.

#### Plan A (Thesis)

To receive credit for ENGL 299 - University Thesis units, students must submit a thesis proposal to the department graduate committee by the deadline in the semester prior to the one in which the student plans to take the 299 units and complete the thesis.



The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee (made up of three readers arranged by the student and approved by the department graduate committee).

Students choosing the Plan A (Thesis) option must also pass the two-part MA, English comprehensive examinations but are not required to enroll in ENGL 297.

### **Plan B (Comprehensive Examinations)**

Students choosing this option must enroll in ENGL 297 and pass the two-part MA comprehensive examinations. They are also required to take an additional 4-unit elective.

## Master's Requirements (30 units)

### Core Courses (4 units)

- ENGL 201 - Materials and Methods of Literary Research *4 unit(s) (GWAR)*

### Electives (20 units)

Five additional graduate-level courses chosen with MA advisor's approval

### Culminating Experience (6 units)

#### **Complete One Option (Plan A Thesis Plus Comp Exam or Plan B Comp Exam Only):**

#### Plan A (Thesis, plus Comprehensive Exam)

- ENGL 299 - University Thesis *1-6 unit(s) (6 units required)*
- Comprehensive Exam

#### Plan B (Comprehensive Exam)

- ENGL 297 - MA Comprehensive Exam Preparation *2 unit(s)*
- Comprehensive Exam
- One additional graduate-level course chosen with MA advisor's approval

## Total Units Required (30 units)

Elective courses must be planned in consultation with the English MA Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

## Professional and Technical Writing Certificate (Graduate)

The English Department offers a 16-unit program consisting of a twelve-unit core (ENGL 106, ENGL 107, ENGL 129) and four units of an advisor approved elective. This program is designed for those seeking greater specialization, including post-baccalaureate students who hold or seek employment in technical or professional writing. Prerequisite: Passage of WST or graduate standing.

### Certificate Requirements (16 units)

#### Core Courses (12 units)

- ENGL 106 - Editing for Writers *4 unit(s)*
- ENGL 107 - Professional Technical Writing *4 unit(s)*
- ENGL 129 - Introduction to Career Writing *4 unit(s)*

#### Electives (4 units)

Complete one course from:

- ENGL 103 - Modern English *4 unit(s)*
- ENGL 105 - Seminar in Advanced Composition *4 unit(s)*
- ENGL 110 - Visual Rhetoric and Digital Document Design for Writers *4 unit(s)*

### Total Units Required (16 units)

## Minor

### Comparative Literature Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (17-20 units)

#### Literature (6-8 units)

Choose two courses from:

- ENGL 40 - Contemporary World Fiction *3 unit(s) (C2)*
- ENGL 117B - Global Film, Literature, and Cultures *3 unit(s) (V)*
- ENGL 123A - Literature for Global Understanding-The Americas *3 unit(s) (V)*
- ENGL 123B - Literature for Global Understanding-Africa *3 unit(s) (V)*
- ENGL 123C - Literature for Global Understanding-Oceania *3 unit(s) (V)*

- ENGL 123D - Literature for Global Understanding-Asia 3 *unit(s)* (V)
- COLT 121 - Introduction to Comparative Literature 4 *unit(s)*
- COLT 122 - Topics in Comparative World Literature 4 *unit(s)*
- Select 11-12 units of Upper Division Instructor Consent and Advisor Approved World Language Literature courses (ENGL 120 or above) or Advisor Approved Upper-Division literature-in-translation courses with extensive reading in the original language 11-12 *unit(s)*

## Total Units Required (17-20 units)

# Creative Writing Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18-19 units)

### Lower Division (3 units)

- ENGL 71 - Creative Writing 3 *unit(s)* (C2)

### Upper Division (12 units)

Complete 12 units from:

- ENGL 130 - Writing Fiction 4 *unit(s)*
- ENGL 131 - Writing Poetry 4 *unit(s)*
- ENGL 133 - Reed Magazine 4 *unit(s)*
- ENGL 135 - Writing Nonfiction 4 *unit(s)*

### Literature Courses (3-4 units)

Select either one survey course

- ENGL 50 - Beginnings to the American Experiment 3 *unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) 4 *unit(s)*
- ENGL 70 - Emerging Modernisms and Beyond 3 *unit(s)* (or one upper division literature course)

## Total Units Required (18-19 units)

# Literature Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (17-19 units)

### Lower Division Courses (6-7 units)

Complete two courses from:

- ENGL 50 - Beginnings to the American Experiment 3 *unit(s)*
- ENGL 60 - The Emergence of British and American Literatures (1680 to 1860) 4 *unit(s)*
- ENGL 70 - Emerging Modernisms and Beyond 3 *unit(s)*

### Upper Division Courses (11-12 units)

Select 11-12 units of Upper Division Advisor Approved Literature classes.\*

### Total Units Required (17-19 units)

\*Note: The following courses DO NOT count for the Literature Minor: ENGL 100W, ENGL 103, ENGL 105, ENGL 106, ENGL 107, ENGL 110, ENGL 120, ENGL 127, ENGL 128, ENGL 129, ENGL 130, ENGL 131, ENGL 133, ENGL 134, ENGL 135, ENGL 173, ENGL 199.

## Professional and Technical Writing Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (16 units)

#### Core Courses (16 units)

- ENGL 103 - Modern English 4 *unit(s)*
- ENGL 106 - Editing for Writers 4 *unit(s)*
- ENGL 107 - Professional Technical Writing 4 *unit(s)*

Complete One Course From:

- ENGL 105 - Seminar in Advanced Composition 4 *unit(s)*
- ENGL 110 - Visual Rhetoric and Digital Document Design for Writers 4 *unit(s)*
- ENGL 129 - Introduction to Career Writing 4 *unit(s)*

### Total Units Required (16 units)

*COLT 121 - Introduction to Comparative Literature*

4 unit(s)

Critical approaches, reference sources, problems of translation.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*COLT 122 - Topics in Comparative World Literature*

4 unit(s)

An exemplary theme as treated in various literatures in different languages, e.g., war, love, freedom, religious experience. May be repeated when course content changes.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*COLT 124 - Literature and Religious Experience*

3 unit(s)

How authors and poets represent spiritual ideals and human dilemmas in a variety of literary genres such as the epic, the novel, the essay, love poetry and the haiku; and writers such as Plato, Emerson, Emily Dickinson, Thomas Merton, Shakespeare, Basho, Hanshan, Rumi and Sufi poets, Kabir, Indian Virashaiva poets, and authors of The Book of Odes and The Mahabharata. Course is repeatable as readings and themes change.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COLT 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ENED 184Y - Student Teaching II - Classroom Teaching*

4 unit(s)

Minimum of 75 periods of classroom teaching, laboratory or field teaching in appropriate subject, grades 7-12, plus related school activities and seminar. Course is repeatable for credit in the same term.

**Prerequisite(s):** ENED 353.

**Grading:** Credit/No Credit

*ENED 184Z - Student Teaching III - Classroom Teaching*

4 unit(s)

See ENED 184Y for course description.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

**Note(s):** May be in a different subject/school and will be at a different grade level. Includes final summary project for student teaching.

*ENED 353 - Methods of Teaching English*

4 unit(s)

Theory and practice of teaching literature and language arts to a diverse student population. Strategies for planning and implementing curricula appropriate to junior and senior high school.

**Grading:** Graded

*ENED 365 - Seminar in English Education*

2 unit(s)

Topics in English Education for middle and high school English teachers.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Acceptance into the English Credential Program.

**Grading:** Credit/No Credit

*ENGL 1A - First Year Writing*

3 unit(s)

English 1A is an introductory course that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using a variety of genres.

*Satisfies A2: Written Comm 1A*

**Prerequisite(s):** Completion of Reflection on College Writing

**Grading:** Graded

*ENGL 1AF - First-Year Writing: Stretch English I*

3 unit(s)

Stretch I is the first semester of a year-long ENGL 1A that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using various genres.

**Prerequisite(s):** Completion of Reflection on College Writing.

**Grading:** Credit/No Credit

*ENGL 1AS - First-Year Writing: Stretch English II*

3 unit(s)

Stretch II is the second semester of a year-long ENGL 1A that prepares students to join scholarly conversations across the university. Students develop reading skills, rhetorical sophistication, and writing styles that give form and coherence to complex ideas for various audiences, using various genres.

*Satisfies A2: Written Comm 1A*

**Prerequisite(s):** ENGL 1AF Stretch English I (formerly HA 96F (FYC Stretch I))

**Grading:** Graded

*ENGL 1B - Argument and Analysis*

3 unit(s)

English 1B is a writing course that focuses on argumentation and analysis. Through the study of literary, rhetorical, and professional texts, students will develop the habits of mind required to write argumentative and critical essays. Particular emphasis is placed on writing and reading processes. Students will have repeated practice in prewriting, drafting, revising, and editing, and repeated practice in reading closely in a variety of forms, styles, structures, and modes.

*Satisfies C2: Letters*

**Prerequisite(s):** ENGL 1A or ENGL 1AS with a C- or better.

**Grading:** Graded

**Note(s):** ENGL 1B is not open to students who successfully completed ENGL 2.

*ENGL 2 - Critical Thinking and Writing*

3 unit(s)

Focuses on the relationship between language and logic in composing arguments. Students learn various methods of effective reasoning and appropriate rhetorical strategies to help them invent, demonstrate, and express arguments clearly, logically, and persuasively.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better.

**Grading:** Graded

**Note(s):** ENGL 2 is not open to students who successfully completed ENGL 1B.

*ENGL 10 - Great Works of Literature*

3 unit(s)

Fiction, drama and poetry for non-English majors. Emphasis on critical appreciation of various literary forms.

*Satisfies C2: Letters*

**Grading:** Graded

**Note(s):** No credit in the English major.

*ENGL 20 - The Graphic Novel*

3 unit(s)

Approaching the graphic novel as a form of popular literature, students examine the narrative and textual aspects of the form including the function of the text, its integration with the graphics, and formal aspects of narrative such as plot, character, theme, and symbol.

*Satisfies C2: Letters*

**Grading:** Graded

*ENGL 21 - Mystery and Detective Fiction*

3 unit(s)

Examines mystery or detective fiction from its inception in the 19th century and follow it across the globe as the genre has been taken on and developed by a variety of cultures.

*Satisfies C2: Letters*

**Grading:** Graded

*ENGL 22 - Fantasy and Science Fiction*

3 unit(s)

Students will examine works of literary fantasy and science fiction to understand them as expressions of human intellect and Imagination; to comprehend their historical and cultural contexts; and to recognize their diverse cultural traditions. Both contemporary and historical works will be studied.

*Satisfies C2: Letters*

**Grading:** Graded

**Note(s):** No credit in the English major.

*ENGL 30 - Literature and the Environment*

3 unit(s)

Explores the ways in which writers and literary texts engage environmental issues and represent the natural world and humanity's place in it, paying close attention to issues of ecology, the landscape, conservation, sustainability, and human intervention/interference. Possible areas of inquiry include nature writing, ecofeminism, ecocriticism, environmental justice, postcolonial environments, and the Anthropocene.

*Satisfies C2: Letters*

**Grading:** Graded

*ENGL 40 - Contemporary World Fiction*

3 unit(s)

A study of selected works of fiction in English and in English translation written since 1975. The course both focuses on international texts that address significant themes of our time and explores ways of reading and understanding literature.

*Satisfies C2: Letters*

**Grading:** Graded

**Note(s):** No credit in the English major.

*ENGL 50 - Beginnings to the American Experiment*

3 unit(s)

Exploration of Anglo-Saxon, Medieval, Renaissance, and Early Colonial Writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.



**Prerequisite(s):** ENGL 1A

**Grading:** Graded

*ENGL 60 - The Emergence of British and American Literatures (1680 to 1860)*

*4 unit(s)*

Exploration of Restoration, Early American, Romantic, American Romantic, and Victorian writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.

**Prerequisite(s):** ENGL 1A

**Grading:** Graded

*ENGL 70 - Emerging Modernisms and Beyond*

*3 unit(s)*

Exploration of Modernist and twentieth-century writings in Britain and America. Class engages literary text, literary history, and historical events that shape the literature of the period.

**Prerequisite(s):** ENGL 1A

**Grading:** Graded

*ENGL 71 - Creative Writing*

*3 unit(s)*

Examinations of works of poetry, creative nonfiction and short fiction as expression of human intellect and imagination, to comprehend the historic and cultural contexts, and recognize issues related to writing by men and women of diverse cultural traditions. Students will also write poetry, creative nonfiction, and a short fiction.

*Satisfies C2: Letters*

**Grading:** Graded

*ENGL 78 - Introduction to Shakespeare's Drama*

*3 unit(s)*

Reading of five or six representative plays. The Elizabethan era, dynamics of performance and close analysis of the plays.

*Satisfies C2: Letters*

**Grading:** Graded

**Note(s):** No credit in the English major.

*ENGL 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*ENGL 96RWS - Integrating Reading and Writing*

1 unit(s)

Co-requisite course offered in conjunction with a primary content-area course in which students engage reading and writing activities to learn disciplinary content. Activities support students to learn about their own learning processes as they build content knowledge in a discipline.

*Course may be repeated for credit for up to 2 units.*

**Corequisite(s):** Early Start or GE course

**Grading:** Credit/No Credit

*ENGL 100A - Writing Competency Through Genres*

3 unit(s)

Satisfies the Writing Skills Test (WST) requirement if passed with a C or better (C- or lower will not satisfy the WST). Prepares students for 100W through drafting, feedback, and revision to demonstrate writing competency. Develops ability to analyze written genres used in the students' chosen disciplines as well as write analytical and reflective essays.

**Prerequisite(s):** Must have failed the WST or students who have not taken the WST must have completed GE area A3, ENGL 1B, HUM 2B, or equivalent with a C- or better.

**Grading:** Graded

**Note(s):** A Credit/No Credit grading option may not be used to satisfy the WST requirement.

*ENGL 100W - Writing Workshop*

4 unit(s)

Integrated writing and literature course to develop advanced proficiency in college-level reading and writing that broadens and deepens understanding of forms and genres, audiences, and purposes of college writing developed in lower-division composition courses while developing mastery of the discourse and methods specific to the field of English literary studies. Repeated practice in close reading of literary texts, writing and revising informal and formal essays of literary analysis, and peer review of other students writing. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: All College of Humanities & Arts majors, Nursing, Occupational Therapy, Public Health, Nutritional Science, Math, Physics, Chemistry, Meteorology, Geology, Special Majors, Social Work, Environmental Studies. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR). Required of all English majors before they achieve senior standing.

*ENGL 100WB - Written Communication: Business*

3 unit(s)

Written communications for business majors; includes minimum of 8,000 words of writing spaced throughout the semester. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: All Business Administration majors, Industrial Arts, Industrial Technology, Professional & Technical Writing, Public Relations, Hospitality Management. Or Graduate or Postbaccalaureate level.  
**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*ENGL 101 - Introduction to Literary Criticism*

*4 unit(s)*

Study and application of various historical and contemporary approaches to literature, such as formalism, structuralism, new criticism, cultural studies, new historicism, post-structuralism, Marxism, post-colonialism, feminism, etc. Application of these approaches to works of literature.

**Prerequisite(s):** ENGL 100W.

**Grading:** Graded

*ENGL 102 - History of the English Language*

*4 unit(s)*

Course traces the development of the English language--its sounds, word forms, grammatical structures, vocabulary, and punctuation--from its origins as a dialect of the Germanic-speaking peoples to its status as a world language today.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 103 - Modern English*

*4 unit(s)*

The growth and structure of modern English, including its phonology, morphology, syntax and semantics. Attention to social and regional varieties, with implications for language development and literacy among native and nonnative speakers.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 105 - Seminar in Advanced Composition*

*4 unit(s)*

Advanced expository writing.

**Prerequisite(s):** Upper-division standing required. Prior completion of ENGL 100W is suggested but not required.

**Grading:** Graded

*ENGL 106 - Editing for Writers*

*4 unit(s)*

Copy editing, substantive editing and reorganization of technical documents. Review of grammar and punctuation to ensure technical mastery and ability to justify editing decisions. Graphics editing, access aids and professional skills of an editor.

**Prerequisite(s):** ENGL 2 or A3 equivalent  
**Grading:** Graded

*ENGL 107 - Professional Technical Writing*

*4 unit(s)*

Survey of technical and professional writing. Students learn how to write and design persuasive documents that get real things done in the real world. Projects include resumes, instructions (video and print), presentations, user manuals, and augmented reality apps. Includes learning digital tools used to author and publish writing in the current tech landscape such as DITA, Augmented Reality (AR), SnagIt, Adobe Premiere, and Madcap Flare.

**Prerequisite(s):** ENGL 2 or A3 equivalent.  
**Grading:** Graded

*ENGL 108 - Gaming and Narrative*

*4 unit(s)*

Study of the relationship between literary narrative theory (narratology) and interactive fiction (books and games designed to produce different stories for different readers or players). Course focuses on whether interactive fiction has changed or reinvented the possible spaces of narrative.

**Prerequisite(s):** Upper Division Standing  
**Grading:** Graded

*ENGL 109 - Writing and the Young Writer*

*4 unit(s)*

Emphasis on workshop approach to improve creative and expository writing skills and to transfer knowledge gained as a writer into practice as a prospective teacher of writing.

**Grading:** Graded

*ENGL 110 - Visual Rhetoric and Digital Document Design for Writers*

*4 unit(s)*

Combines visual rhetorical theory with design techniques to teach writers about the visual aspects of written and digital communication. In this hands-on course, students will design documents, including a poster, a book chapter, and promotional materials for local nonprofits.

**Prerequisite(s):** ENGL 100W  
**Grading:** Graded

*ENGL 111 - Writing Online: Strategic Digital Content and Social Media*

*4 unit(s)*

Content writing and management, creating effective and ethical content, content auditing, integration and assessment. Applications may include social media posts/campaigns, website copy, promotional materials, videos, podcasts, product and event descriptions, blog posts or articles, how-to/user guides, infographics, and FAQ pages. Activities include producing reports, conducting user research, and giving verbal presentations.

**Prerequisite(s):** Upper-division standing.  
**Grading:** Graded

*ENGL 112A - Children's Literature*

3 unit(s)

Study of literature for elementary and intermediate grades, representing a variety of cultures. Evaluation and selection of texts.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 112B - Literature for Young Adults*

4 unit(s)

Study of selected literary material, representing a variety of cultures, chosen to motivate secondary school readers.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 113 - Gothic Novel and Horror Fiction*

4 unit(s)

Study of the gothic novel in Britain and America 1795-1900. Current trends in horror fiction and films will be traced to these gothic predecessors.

**Prerequisite(s):** Upper division standing  
**Grading:** Graded

*ENGL 115 - The Bible as Literature*

4 unit(s)

Study of the Bible from the perspective of literature, examining key portions of the Bible, its subjects, themes, literary styles and genres, and contributions to Western Literature.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 116 - Myth in Literature*

4 unit(s)

Relations between archetypes, artistic style and cultural context in masterworks, ancient through modern.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 117A - American Literature, Film, & Culture*

3 unit(s)

Using both film and literature, course examines narratives that create and define cultural identities in the United States. A variety of cultural moments in the history of North America as depicted in both film and literature as well as the artistic practices used to shape those representations will be discussed. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in U.S.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 117B - Global Film, Literature, and Cultures*

*3 unit(s)*

Using films and literary works, students will appreciate and understand the narratives (myths and other stories ) that create and define cultural identity, explore cultural interaction, and illustrate cultural preservation and cultural difference over time. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 120 - Theatre History*

*3 unit(s)*

Examines the historical roots, many manifestations, and diversity of theatrical performances with particular attention to theatre's role within and between cultures.

**Prerequisite(s):** TA 11 or instructor consent.

**Grading:** Graded

*ENGL 121 - Introduction to Comparative Literature*

*4 unit(s)*

Critical approaches, reference sources, problems of translation.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*ENGL 122 - Topics in Comparative World Literature*

*4 unit(s)*

An exemplary theme as treated in various literatures in different languages, e.g., war, love, freedom, religious experience. May be repeated when course content changes.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*ENGL 123A - Literature for Global Understanding-The Americas*

3 unit(s)

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, the Americas, and covers representative texts and authors from Latin America and the Caribbean/West Indies. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 123B - Literature for Global Understanding-Africa*

3 unit(s)

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Africa, and covers representative texts and authors from North Africa and Sub-Saharan Africa. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 123C - Literature for Global Understanding-Oceania*

3 unit(s)

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Oceania, and covers representative texts and authors from Australia, New Zealand, and the Pacific Islands. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 123D - Literature for Global Understanding-Asia*

3 unit(s)

Course promotes global understanding by examining the cultures and literary arts of a selected region of the world, Asia, and covers representative texts and authors from a sub-region of Asia such as East Asia, South Asia, Southeast Asia, Central Asia, or West Asia/the Middle East. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 124 - Literature and Religious Experience*

*3 unit(s)*

How authors and poets represent spiritual ideals and human dilemmas in a variety of literary genres such as the epic, the novel, the essay, love poetry and the haiku; and writers such as Plato, Emerson, Emily Dickinson, Thomas Merton, Shakespeare, Basho, Hanshan, Rumi and Sufi poets, Kabir, Indian Virashaiva poets, and authors of The Book of Odes and The Mahabharata. Course is repeatable as readings and themes change.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENGL 125 - European Literature: Homer through Dante*

*4 unit(s)*

Classical and medieval literature in translation: Homer, Aeschylus, Sophocles, Euripides, Virgil and Dante.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 126 - Holocaust Literature*

*3 unit(s)*

Survey of literature written by survivors or witnesses of the Holocaust, the destruction of European Jewry during World War II, focusing upon diaries, memoirs, fiction, and occasionally poetry and drama. Writers may include Elie Wiesel, Primo Levi, Anne Frank, Charlotte Delbo.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 127 - Contemporary Theatre*

*3 unit(s)*

European and American playwrights from 1950 to the present and important theatre practices for this period.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not



accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 128 - Scriptwriting*

3 unit(s)

Writing in dramatic form: plot structure, characterization, content and theme. Analysis of plays. Exercises in writing.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENGL 129 - Introduction to Career Writing*

4 unit(s)

Professional and workplace writing where students learn new writing skills and expand their professional portfolio. Content may include writing for social media, marketing copy, nonprofits, and website content. Students write to get published on topics such as food, music, movies, video games, fashion, high-tech, and science. Class projects may include feature articles, reviews, interviews, marketing plans, the English Department magazine, an in-class podcast series, instructional videos, and a weekly updated blog.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 130 - Writing Fiction*

4 unit(s)

Workshop in short stories or other short fiction. Beginning the novel in individual cases. May be repeated twice for credit.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** ENGL 71 (or equivalent) or instructor consent.

**Grading:** Graded

*ENGL 131 - Writing Poetry*

4 unit(s)

Workshop in verse forms. Study of traditional and contemporary models. May be repeated twice for credit.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** ENGL 71 (or equivalent) or instructor consent.

**Grading:** Graded

*ENGL 133 - Reed Magazine*

*4 unit(s)*

Student-edited and managed literary magazine. Contents selected from local, national and international submissions. Students urged to work on the magazine for the two semesters required for publication. Open to all majors. May be repeated once for credit.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 134 - Speech Writing*

*3 unit(s)*

Writing speeches for others. Study of audience, language, persuasion, devices, style.

**Prerequisite(s):** ENGL 129 or instructor consent.

**Grading:** Graded

*ENGL 135 - Writing Nonfiction*

*4 unit(s)*

Advanced creative writing workshop in literary nonfiction. Study of traditional and contemporary models. May be repeated twice for credit.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** ENGL 71, ENGL 100W, ENGL 105, ENGL 129 or instructor consent.

**Grading:** Graded

*ENGL 139 - Visiting Authors*

*4 unit(s)*

Study of works by contemporary writers participating in the Major Authors series and other programs sponsored by the Center for Literary Arts. Includes meetings with visiting authors and attending their various presentations. Recommended for the Creative Writing Concentration.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 140A - Old English*

*4 unit(s)*

Introduction to the language, with short selections for translation.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 140B - Beowulf*

*4 unit(s)*

This class is the second class in a year-long sequence of Old English. Students will be translating all 3,182 lines of Beowulf and investigating its linguistic, historical and cultural context as the first epic poem recorded in the English

language.

**Prerequisite(s):** ENGL 140A or equivalent

**Grading:** Graded

*ENGL 141 - Medieval Literature*

*4 unit(s)*

Middle English and continental literature, including such forms as the lyric, allegory, narrative, romance and biblically-based drama.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 142 - Chaucer*

*4 unit(s)*

Chaucer's language and major poetic works. The Legend of Good Women, The Canterbury Tales and Troilus and Cressida.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 144 - Shakespeare I*

*4 unit(s)*

Major plays such as Twelfth Night, Henry IV, Part I and Hamlet.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 145 - Shakespeare and Performance*

*4 unit(s)*

Course examines in depth several of Shakespeare's plays, specifically addressing issues of performance. We will discuss each play in the context of its original performance during Shakespeare's time and its life on stage and screen in the ensuing centuries.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 146 - Studies-Early Modern British Literature*

*4 unit(s)*

Offers students the opportunity to study the poetry, drama, and prose of the influential early modern period in England. The course is broadly construed, enabling individual professors to focus on topics relating to their particular areas of expertise and/or interests.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 147 - Milton*

4 unit(s)

The man, the thinker, the revolutionary, the poet. English poems, major prose, selected modern criticism.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 148 - British Literature: 1660-1800*

4 unit(s)

Major writers including Dryden, Behn, Swift, Pope and Johnson. With instructor consent may be repeated.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 149 - The Romantic Period*

4 unit(s)

Study of major British authors and poets from 1780 to 1837, tracing changes in philosophy, religion, society, and culture represented in their works.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 150 - The Victorian Age*

4 unit(s)

Study of major British authors and poets from 1837 to 1900, tracing changes in philosophy, religion, society and culture represented in their works.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 151 - Twentieth Century Poetry*

4 unit(s)

Major British and American poets, including figures such as Yeats, Eliot, Pound, Frost, Auden, Stevens, Rich.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 152 - Studies in British Drama before 1800*

4 unit(s)

Offers students the opportunity to study drama of the influential early modern poets in England. This course is broadly construed, enabling individual professors to focus on topics relating to their particular areas of expertise and/or interests.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*ENGL 153 - Studies in the British Novel Before 1900*

4 unit(s)

This course deals with the origin, evolution, and spread of the British novel through the 18th and 19th centuries. In addition to studying major novels in their historical and cultural contexts, students will also examine the changing formal characteristics of the genre.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 156 - Black Women Writers: Race, Culture and Resistance*

3 unit(s)

Comparative analysis of the meaning and developmental stages of womanhood for women of African ancestry as depicted in the fiction of women of African ancestry. Emphasis on the role of race and culture in shaping contemporary conceptions of womanhood among Black women.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENGL 157 - Topics in Rhetorical Analysis*

4 unit(s)

Focused study of a topic in the theory and practice of rhetoric, such as feminist rhetorics, rhetoric of graphic design, political rhetoric, or rhetorics of new/social media. Check schedule of classes for current offering.

*Course is repeatable for up to 8 units.*

**Prerequisite(s):** Upper Division Standing.

**Grading:** Graded

*ENGL 162 - Studies-American Literature Before 1865*

4 unit(s)

This course examines oral and written poetry, fiction, and nonfiction prose in American Literature before 1865. Through lecture, discussion, and writing, students will be given the opportunity to analyze and understand the literary texts as well as the historical and cultural contexts in which they were produced.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 163 - American Literature: 1865-1945*

4 unit(s)

Authors, works, and themes from the period between the Civil War and WWII, including literary and social movements such as Realism, Naturalism, Modernism, Feminism, and social protest.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 165 - Topics in Ethnic American Literature*

4 unit(s)

Focused study of a topic in ethnic American Literature, such as African American, Asian American, Latino American, or ethnic autobiography. Check schedule of classes for current offering.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 166 - American Literature Since 1945*

4 unit(s)

Major works of American literature since 1945, including writers such as Barth, Reed, Kingston, Lowell, Rich, Pynchon and Ozick.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 167 - Steinbeck*

4 unit(s)

Major works of John Steinbeck. Use of Steinbeck Center for research.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 168 - The American Novel*

4 unit(s)

Selected American novels from the Revolution to the present.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 169 - Ethnicity in American Literature*

3 unit(s)

Study of race and ethnicity in the literary arts of North America. Selected works of authors from such groups as African Americans, European Americans, Asian Americans, Chicanos, Latinos and American Indians. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 172 - The Arts in U.S. Society*

3 unit(s)

Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 173 - Thinking About Contemporary World Arts*

3 unit(s)

An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENGL 176 - The Short Story*

4 unit(s)

Analysis and interpretation of selected short stories from the nineteenth century to the present.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 177 - Topics in Fiction Since 1900*

4 unit(s)

Course will focus on different topics in modern fiction. Novels and short stories will be examined as works of art and as expressions of intellectual and social movements. May be repeated when course content changes.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENGL 178 - Creative Nonfiction*

4 unit(s)

This class will study the canonical texts in the genre of creative nonfiction and the historical influences which led to its development.

**Prerequisite(s):** Upper Division Standing  
**Grading:** Graded

*ENGL 180 - Individual Studies*

1-3 unit(s)  
By arrangement with instructor and department chair approval.

**Prerequisite(s):** Upper division standing.  
**Grading:** Credit/No Credit

*ENGL 181 - Special Topics*

4 unit(s)  
Significant topics or themes in English or Comparative Studies.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 182 - Women in Literature*

4 unit(s)  
Image of women in literature or works of significant women writers.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 183 - Major Authors*

4 unit(s)  
One major author's works. Author changes each semester.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ENGL 190 - Honors Colloquium*

4 unit(s)  
Selected topics.

**Prerequisite(s):** Admission to departmental honors program.  
**Grading:** Graded

*ENGL 192 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*ENGL 199 - Writing Internship*

3 unit(s)  
Internship at a local industry, publisher, arts or public agency. Discussion of experiences and problems in the



internship. Study of professional practices and demands, including those of career preparation and development.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** 3.0 GPA both overall and in English; no credit in English major.

**Grading:** Credit/No Credit

*ENGL 201 - Materials and Methods of Literary Research*

*4 unit(s)*

Use and evaluation of resource for literary research; problems in critical writing and literary history. Required for all English Masters students (to be taken as early as possible after achieving Classified standing).

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 202 - Poetic Craft and Theory*

*4 unit(s)*

Poetry as a literary genre - its patterns and sub-types (such as the epic, lyric, pastoral, and elegy). Attention to the theories of poetics applied to practical criticism. Prior permission of graduate advisor may be repeatable once for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*ENGL 203 - Narrative Craft and Theory*

*4 unit(s)*

Study of prose fiction and nonfiction as a literary genre (with sub-genres) and an art which can be learned through imitation and analysis. Course emphasizes the formal and technical properties of prose narrative, with attention to Narratology. Prior permission of graduate advisor may be repeatable once for credit.

**Grading:** Graded

*ENGL 204 - Seminar in Modern Approaches to Literature*

*4 unit(s)*

Study of modern approaches to the theory and practice of literary criticism. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 208 - Seminar in Comparative Literature*

*4 unit(s)*

Study of selected topics in comparative literature. Students will be encouraged to do some reading and research in a language other than English. With prior permission of graduate advisor repeatable twice for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 211 - Seminar in Twentieth Century Poetry*

*4 unit(s)*

Intensive study of selected major English and American poets of the twentieth century. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 215 - Seminar in Myth and Symbolism*

*4 unit(s)*

Comparative study of mythic and symbolic forms in literature, focusing on theory and a variety of texts. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 216 - Seminar in Medieval English Literature*

*4 unit(s)*

Study of selected writings in medieval English literature and their continental sources. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 224 - Studies in English Early Modern Literature*

*4 unit(s)*

Study of selected writers or topics of the sixteenth and seventeenth century.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified graduate standing or instructor consent

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 225 - Seminar in Shakespeare*

*4 unit(s)*

A close study of selected plays and of selected major issues in Shakespearean criticism. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 228 - Seminar in Genre Studies*

*4 unit(s)*

Provides focused study of a single genre of British and/or World Literature.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified graduate standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 230 - Seminar in Eighteenth Century British Literature*

4 unit(s)

Study of selected writers from 1660 to 1789. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 232 - Seminar in Romanticism*

4 unit(s)

Study of selected British writers from the late eighteenth and early nineteenth centuries. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

*Course is repeatable for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 233 - Seminar in the Victorian Period*

4 unit(s)

Study of selected British writers from 1832 to 1900. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 240 - Poet Writ Workshop*

4 unit(s)

Poetics and poetry writing as preparation for thesis. Includes theory and practice of major trends in contemporary poetry. Intensive workshop experience. May be repeatable for credit for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Graduate standing and admission via portfolio acceptance to the Writing Focus.

**Grading:** Graded

*ENGL 241 - Fic Writ Workshop*

*4 unit(s)*

Fiction writing as preparation for thesis. Study of canonical and contemporary fiction and fiction produced by students. Intensive workshop experience. May be repeatable for credit for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Grading:** Graded

*ENGL 242 - Nonfiction Writing Workshop*

*4 unit(s)*

Nonfiction writing as preparation for thesis. Study and critique of canonical and contemporary nonfiction. Intensive workshop experience. May be repeatable for credit for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Grading:** Graded

*ENGL 253 - Seminar in Period Studies of American Literature*

*4 unit(s)*

Focuses on a period of American literature such as Colonial, Revolutionary/Federal, Romantic, Realist, Modernist, Post-modernist. With prior permission of graduate advisor may be repeatable once for credit .

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 254 - Seminar in Genre Studies of American Literature*

*4 unit(s)*

Focuses of a genre of American Literature such as poetry, the novel, the short story, drama, autobiography, the personal and/or philosophical essay. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 255 - Seminar in Thematic Studies of American Literature*

4 unit(s)

Focuses on development of a theme in American Literature. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 256 - Seminar in Twentieth Century British Literature*

4 unit(s)

Study of selected British writers since 1900. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ENGL 257 - Seminar in the History of Rhetoric*

4 unit(s)

Study of rhetorical theory and practice from classical to modern times.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*ENGL 259 - Seminar in Composition Studies*

4 unit(s)

Study of current approaches to composition.

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*ENGL 281 - Special Topics*

4 unit(s)

Significant topic or area reflecting trends and changes in the field. Provides students with an opportunity to gain

specialized or advanced knowledge in a small-group setting.

**Grading:** Graded

*ENGL 291 - Lit Practicum*

4 unit(s)

This course prepares Creative Writing graduate students to take the MFA exam and develop and begin writing an MFA thesis, customize the MFA exam reading list, prepare to take the MFA comprehensive exam, draft the thesis abstract and thesis preface.

**Prerequisite(s):** Approval of thesis proposal.

**Grading:** Graded

*ENGL 297 - MA Comprehensive Exam Preparation*

2 unit(s)

Workshop in writing and preparing for the two-part comprehensive masters examination.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*ENGL 298 - Special Study*

1-6 unit(s)

Advanced and individual research and projects.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*ENGL 298D - Departmental Thesis or Project*

1-6 unit(s)

Supervised study. Completed thesis is approved by department and not uploaded to ProQuest, ScholarWorks or other digital repository. Recommended for students who wish to protect copyright of creative work for future publication.

**Prerequisite(s):** Candidacy and successful completion of ENGL 291, assembly of Thesis Committee, and thesis proposal.

**Grading:** Mandatory CR/NC/RP

*ENGL 299 - University Thesis*

1-6 unit(s)

Supervised study. Completed theses are approved by the university and may at some point be uploaded to ProQuest, ScholarWorks or other digital thesis repository.

**Prerequisite(s):** Candidacy and successful completion of ENGL 291, assembly of Thesis Committee, and thesis proposal.

**Grading:** Mandatory CR/NC/RP

*ENGL 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Film and Theatre

**Office:** Hugh Gillis Hall 100

**Telephone:** 408-924-4530

**Email:** [filmandtheatre@sjsu.edu](mailto:filmandtheatre@sjsu.edu)

**Website:** [www.sjsu.edu/filmandtheatre](http://www.sjsu.edu/filmandtheatre)

## Radio, Television and Film

### Professors

Kimb Massey, Ph.D.

Alison McKee, Ph.D.

Babak Sarrafan

Scott Sublett

### Associate Professors

Harold Mathias

Elisha Miranda-Ramirez, Chair

## Theatre Arts

### Professors

Buddy E. Butler

Amy Glazer

### Assistant Professors

Andrea Bechert

Kristen Brandt

## Overview



The Department of Film and Theatre prepares students for successful careers and leadership roles in performance and media. We develop media artists, directors, screenwriters, actors, designers, cinematographers, producers, technicians, educators, and scholars of the highest possible caliber. The entertainment industry is one of the largest contributors to the national economy, and media creators and performers are some of the strongest influencers in our society. To produce and distribute media that influence cultural dialogue, requires a rigorous liberal arts education. All aspects of Film and Theatre are under the guidance of award-winning filmmakers and theatre professionals, many of whom work in the industry. As a center for the training of future artists the Department of Film and Theatre is committed to introducing a diversity of fine arts and cultures to students. The Department provides students with the foundation to enter the entertainment industry, giving them excellent preparation to attend graduate school or enter the profession directly after graduating with their program degree.

The BA in Radio-Television-Film focuses on the development of creative voice and artistic expression in the context of a rigorous liberal arts education. This comprehensive program emphasizes a hands-on, project-based approach in which students will learn all the aspects of radio, television and film production through the use of our state-of-the-art facilities and best industry practices. Students will receive a solid foundation in the areas of Television/Film Production, Screenwriting, Radio-Television-Film Studies and Radio/Audio Production. Our Radio-Television-Film Studies program offers a comprehensive study of media from historical, cultural, and critical perspectives. While earning a BA in Radio-Television-Film students gain industry experience working with Spartan Studios (our in-house film studio), developing their directing skills for television and film, interning for local film festivals, or working on numerous media projects from the Bay Area to Los Angeles, across the country, and internationally.

The BA in Theatre gives students an opportunity to participate in a strong professional theatre curriculum with high quality productions that serve as a learning laboratory in which students collaborate with faculty and guest professionals; through studio workshops and advanced productions at San Jose State University's newly acquired Hammer Theatre. The Theatre Program offers three areas of study with the specific goals of serving each student: acting and directing for film, television and theatre; musical theatre; and design and technology. While earning their BA in theatre, students gain real-world experience from working onstage and backstage with professional organizations such as the California Shakespeare Theatre, Magic Theatre, San Francisco Playhouse, TheatreWorks and the Berkeley Repertory Theatre.

## Undergraduate

### Radio-Television-Film, BA

The Radio-Television-Film program, offered by the Department of Film and Theatre, is designed for students interested in working in and studying the world of media. Once students complete the required, well-rounded base of audio/film/video/writing/scholarship courses, students can then choose to focus more specifically with the program's degree completion options.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 44

Major Preparation 9

Major Requirements 51

University Electives 16

**Total 120**

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)

- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (9 units)

- RTVF 10 - The Art of Film 3 *unit(s)* (C1)
- RTVF 110 - Media and Culture 3 *unit(s)* (S)
- TA 100W - Writing Workshop: Theatre Arts 3 *unit(s)* (Z)

## Major Requirements (51 units)

### Core Courses (33 units)

- RTVF 20 - Introduction to Audio for Film & Television 3 *unit(s)*
- RTVF 30 - Introduction to Film & Television Production 3 *unit(s)*
- RTVF 31 - Film and Television Aesthetics 3 *unit(s)*
- RTVF 80 - Introduction to Media 3 *unit(s)*
- RTVF 82 - Introduction to Film History 3 *unit(s)*
- RTVF 120 - Intermediate Audio for Film & Television 3 *unit(s)*
- RTVF 130 - Intermediate Film & Television Production 3 *unit(s)*
- RTVF 160 - Introduction to Screenwriting 3 *unit(s)*
- RTVF 183 - Critical Studies & Research in RTVF 3 *unit(s)*
- RTVF 185 - Special Topics in RTVF 3 *unit(s)*
- RTVF 198 - RTVF Internships, Portfolio, Career Prep 3 *unit(s)*

## Major Electives (18 units)

Complete 18 units from:

- RTVF 21 - KSJS On-Air Operations 3 *unit(s)*
- RTVF 111 - Alternative Cinema 3 *unit(s)* (V)
- RTVF 121 - KSJS-FM Radio Activity 1-3 *unit(s)*
- RTVF 122 - KSJS Station Operation & Mgmt 3 *unit(s)*
- RTVF 131A - Post Production: Color Correction 3 *unit(s)*
- RTVF 131B - Post Production Editing & Delivery 3 *unit(s)*
- RTVF 132A - Introduction to Cinematography 3 *unit(s)*
- RTVF 132B - Advanced Cinematography 3 *unit(s)*
- RTVF 133 - Film & TV Production Management 3 *unit(s)*
- RTVF 135 - RTVF Production: Special Projects 3 *unit(s)*
- RTVF 136 - Advanced Film & Television Production 3 *unit(s)*
- RTVF 161 - Advanced Screenwriting 3 *unit(s)*
- RTVF 180S - Individual Studies 1-3 *unit(s)*
- RTVF 181 - Modern Film History 3 *unit(s)*

## University Electives (16 units)

## Total Units Required (120 units)

## Theatre Arts, BA

The Theatre Major, offered by the Department of Film and Theatre, emphasizes a strong foundation in acting, directing, writing, design and entertainment technologies. Theatre Arts students study the history and practices of theatre with a particular emphasis on the interrelationship between theatre and contemporary performance culture. Once students complete the required, well-rounded base of core courses, students can then choose to focus more specifically with the program's elective specialization areas.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	9
Major Requirements	55
University Electives	12
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (9 units)

- TA 5 - Acting 3 *unit(s)* (C1)
- TA 100W - Writing Workshop: Theatre Arts 3 *unit(s)* (Z)
- TA 127 - Contemporary Theatre 3 *unit(s)* (V)

## Major Requirements (55 units)

### Core Courses (37 units)

- TA 11 - Script Analysis 3 *unit(s)*
- TA 17 - Intermediate Acting 3 *unit(s)*
- TA 51A - Scenery and Props for the Performing Arts 1 *unit(s)*
- TA 51B - Costume for the Performing Arts 1 *unit(s)*
- TA 51C - Lighting & Sound for the Performing Arts 1 *unit(s)*
- TA 55 - Intro to Design for Theatre 3 *unit(s)* (C1)
- TA 116 - Directing 3 *unit(s)*
- TA 120 - Theatre History 3 *unit(s)*
- TA 128 - Scriptwriting 3 *unit(s)*
- TA 153 - Costume Design for Performing Arts 3 *unit(s)*
- TA 154 - Scenic Design for Performing Arts 3 *unit(s)*
- TA 170A - Acting and Directing for the Camera 3 *unit(s)*
- TA 198 - Internship 3 *unit(s)*

### Complete a Combination of 4 Units From

Complete a combination of 4 units from (at least 1 unit must be TA 191):

- TA 117 - Practice in Acting or Directing 1 *unit(s)*
- TA 191 - Activity Projects in Theatre Production 1-3 *unit(s)*

### Major Electives (18 units)

- TA 10 - Theatre Appreciation 3 *unit(s)* (C1)

- TA 13 - Great Comedies for Theatre 3 *unit(s)* (C2)
- TA 48 - Voice & Movement for the Actor 3 *unit(s)* (E)
- TA 64 - Make-up for Performing Arts 3 *unit(s)*
- TA 91 - Scenic Painting & Props 1-3 *unit(s)* (3 *units* required)
- TA 103 - Musical Theatre 3 *unit(s)*
- TA 110 - Advanced Acting 3 *unit(s)*
- TA 112 - Rehearsal and Performance 3 *unit(s)*
- TA 113 - Acting and Professional Career Prep 3 *unit(s)*
- TA 117 - Practice in Acting or Directing 1 *unit(s)*
- TA 121 - Topics in Performance History 3 *unit(s)*
- TA 129 - Advanced Scriptwriting 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*
- TA 148 - Voice & Movement for Performance 3 *unit(s)*
- TA 151 - Lighting Design for Performing Arts 3 *unit(s)*
- TA 153 - Costume Design for Performing Arts 3 *unit(s)*
- TA 154 - Scenic Design for Performing Arts 3 *unit(s)*
- TA 158 - Model Making & Drafting Film & Theatre 3 *unit(s)*
- TA 161 - Theatre Design Topics 3 *unit(s)*
- TA 168 - Stage Management 3 *unit(s)*
- TA 170B - Advanced Acting and Directing for the Camera 3 *unit(s)*
- TA 180 - Individual Studies 1-3 *unit(s)*
- TA 199H - Honors Program 2-3 *unit(s)*

University Electives (12 units)

Total Units Required (120 units)

## Minor

### Musical Theatre Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (24 units)

Music (4 units)

- MUSC 9 - Music Fundamentals 3 *unit(s)*
- MUSC 26A - Voice Fundamentals 1 *unit(s)*

Dance (2 units)

- DANC 42A - Topics in Jazz Dance I 2 *unit(s)* (PE)

## Theatre Arts (12 units)

- TA 48 - Voice & Movement for the Actor 3 *unit(s)* (EE)
- TA 17 - Intermediate Acting 3 *unit(s)*
- TA 103 - Musical Theatre 3 *unit(s)*
- TA 121 - Topics in Performance History 3 *unit(s)*

## Electives (6 units)

## Total Units Required (24 units)

# Radio-Television-Film Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

### Core Courses (12 units)

- RTVF 20 - Introduction to Audio for Film & Television 3 *unit(s)*
- RTVF 30 - Introduction to Film & Television Production 3 *unit(s)*
- RTVF 80 - Introduction to Media 3 *unit(s)*
- RTVF 82 - Introduction to Film History 3 *unit(s)*

## Upper Division Electives (6 units)

With approval of minor advisor

## Total Units Required (18 units)

# Theatre Arts Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)



## Core Courses (7 units)

- TA 11 - Script Analysis 3 *unit(s)*
- TA 191 - Activity Projects in Theatre Production 1-3 *unit(s)* (1 *unit* required)

## Complete One Course From:

- TA 5 - Acting 3 *unit(s)* (C1)
- TA 10 - Theatre Appreciation 3 *unit(s)* (C1)
- TA 55 - Intro to Design for Theatre 3 *unit(s)* (C1)

## Electives (11 units)

Choose a combination of courses that add up to 11 units, 6 of which must be upper division.

- TA 5 - Acting 3 *unit(s)* (C1) (if not taken above)
- TA 10 - Theatre Appreciation 3 *unit(s)* (C1) (if not taken above)
- TA 13 - Great Comedies for Theatre 3 *unit(s)* (C2)
- TA 17 - Intermediate Acting 3 *unit(s)*
- TA 48 - Voice & Movement for the Actor 3 *unit(s)* (E)
- TA 55 - Intro to Design for Theatre 3 *unit(s)* (if not taken above) (C1)
- TA 64 - Make-up for Performing Arts 3 *unit(s)*
- TA 91 - Scenic Painting & Props 1-3 *unit(s)* (3 *units* required)
- TA 100W - Writing Workshop: Theatre Arts 3 *unit(s)* (Z)
- TA 103 - Musical Theatre 3 *unit(s)*
- TA 110 - Advanced Acting 3 *unit(s)*
- TA 112 - Rehearsal and Performance 3 *unit(s)*
- TA 113 - Acting and Professional Career Prep 3 *unit(s)*
- TA 116 - Directing 3 *unit(s)*
- TA 117 - Practice in Acting or Directing 1 *unit(s)*
- TA 120 - Theatre History 3 *unit(s)*
- TA 121 - Topics in Performance History 3 *unit(s)*
- TA 127 - Contemporary Theatre 3 *unit(s)* (V)
- TA 128 - Scriptwriting 3 *unit(s)*
- TA 129 - Advanced Scriptwriting 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*
- TA 151 - Lighting Design for Performing Arts 3 *unit(s)*
- TA 153 - Costume Design for Performing Arts 3 *unit(s)*
- TA 154 - Scenic Design for Performing Arts 3 *unit(s)*
- TA 158 - Model Making & Drafting Film & Theatre 3 *unit(s)*
- TA 161 - Theatre Design Topics 3 *unit(s)*
- TA 168 - Stage Management 3 *unit(s)*
- TA 170A - Acting and Directing for the Camera 3 *unit(s)*
- TA 170B - Advanced Acting and Directing for the Camera 3 *unit(s)*
- TA 191 - Activity Projects in Theatre Production 1-3 *unit(s)* (3 *units* required) (All three TA 51 courses must be taken to meet requirement.)
- TA 51A - Scenery and Props for the Performing Arts 1 *unit(s)*

- TA 51B - Costume for the Performing Arts 1 unit(s)
- TA 51C - Lighting & Sound for the Performing Arts 1 unit(s)

## Total Units Required (18 units)

### *RTVF 10 - The Art of Film*

3 unit(s)

Study of the formal, aesthetic, historical, and cultural contexts of film as an art form. GE Area C1.

*Satisfies C1: Arts*

**Grading:** Graded

### *RTVF 20 - Introduction to Audio for Film & Television*

3 unit(s)

Fundamentals of audio production in film and television settings.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** Instructor Consent.

**Grading:** Graded

### *RTVF 21 - KSJS On-Air Operations*

3 unit(s)

On-Air operation of campus radio station KSJS-FM, FCC, equipment, D.J. interview, sports; all activities and processes required for live broadcasting, music, public service and community service programming.

*Misc/Lab: Lecture 1 hour /Activity 4 hours.*

**Grading:** Graded

### *RTVF 30 - Introduction to Film & Television Production*

3 unit(s)

Fundamentals of film and television production.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

### *RTVF 31 - Film and Television Aesthetics*

3 unit(s)

Theory of applied aesthetics in video, film, and new media based on an examination of fundamental image and sound production.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*RTVF 80 - Introduction to Media*

3 unit(s)

Analysis of the history and evolution of radio (audio) and television (video) in the U.S. Examination of programming, government regulation, advertising, networking, development of electronic media technologies and world media systems.

**Grading:** Graded

*RTVF 82 - Introduction to Film History*

3 unit(s)

The history and evolution of the motion picture from 1895 to 1945. Viewing of representative films, study and discussion of major world film movements, important directors, and key genres.

**Grading:** Graded

*RTVF 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*RTVF 110 - Media and Culture*

3 unit(s)

Critical survey of roles played by electronic media in shaping culture. Media institutions are examined regarding information they distribute, entertainment they provide and influence they bring. Analysis of media sources, messages and audiences. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RTVF 111 - Alternative Cinema*

3 unit(s)

Uses films from previously marginalized national cinemas from around the world as primary sources to teach students to appreciate, understand and compare diverse cultures. Introduces students to alternative modes of filmmaking and analysis. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RTVF 120 - Intermediate Audio for Film & Television*

3 unit(s)

Techniques of audio production and post production for film and television settings.

*Lecture 2 hours /Activity 2 hours.*

**Prerequisite(s):** RTVF 20, RTVF 30, RTVF 31, upper division standing or instructor consent. No concurrent enrollment with prerequisites.

**Grading:** Graded

*RTVF 121 - KSJS-FM Radio Activity*

1-3 unit(s)

Student participation in radio with KSJS-FM. Activities supervised by area faculty. Open to all students whether lower division or upper-division standing. Repeatable, but only 6 units may be used for graduation.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*RTVF 122 - KSJS Station Operation & Mgmt*

3 unit(s)

Structure and operation of non-commercial radio station KSJS-FM. Theory and practice of radio management, programming, production, public service, sales and engineering. Repeatable, but only 6 units may be used for graduation.

*Misc/lab: Lecture 1 hour/Activity 4 hours*

**Prerequisite(s):** Appointment to KSJS management staff or instructor consent.

**Grading:** Graded

*RTVF 130 - Intermediate Film & Television Production*

3 unit(s)

Techniques of film and television production.

*Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** RTVF 20, RTVF 30, and RTVF 31, upper division standing or instructor consent. No concurrent enrollment with prerequisites.

**Grading:** Graded

*RTVF 131A - Post Production: Color Correction*

3 unit(s)

Post production course with emphasis on color grading and correction of film and television production projects.

*Misc/Lab: Lecture 2 hours/Activity 2 hours*

**Prerequisite(s):** RTVF 130 or instructor consent.

**Grading:** Graded

*RTVF 131B - Post Production Editing & Delivery*

3 unit(s)

Editing, post production and delivery techniques for film and television projects.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** RTVF 130 or instructor consent.

**Grading:** Graded

*RTVF 132A - Introduction to Cinematography*

3 unit(s)

First in-depth course in cinematography. Principles of motion picture photography explored through lecture, discussions, projects and screenings. Skills of the cinematographer developed by shooting exercises during and outside of class. Appreciation of the art of and technology of cinematography.

*Misc/Lab: Lecture 2 hours/Activity 2 hours*

**Prerequisite(s):** RTVF 30 or Instructor consent.

**Grading:** Graded

*RTVF 132B - Advanced Cinematography*

3 unit(s)

Advanced, in-depth course in cinematography consisting of mostly hands-on practicum, with lectures as needed. Dramatic scenes are filmed in realistic production shooting situations, both in the studio and on location. Scripts to be photographed are selected by the professor and the students based on the challenges they present.

*Misc/Lab: Lecture 2 hours/Activity 2 hours*

**Prerequisite(s):** RTVF 131A or Instructor consent. No concurrent enrollment with prerequisites.

**Grading:** Graded

*RTVF 133 - Film & TV Production Management*

3 unit(s)

Analysis of film and television organization and programming concepts, including production management, decision-making processes, technical script breakdown, and its relation to budgeting and finance.

**Grading:** Graded

*RTVF 135 - RTVF Production: Special Projects*

3 unit(s)

Principles, procedures and techniques used to produce an advanced-level radio, audio, television or film project. See department office for specific project information.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** RTVF 20, RTVF 30, upper division standing or instructor consent.

**Grading:** Graded

*RTVF 136 - Advanced Film & Television Production*

3 unit(s)

Creation, production and direction of senior-level project utilizing cinematic language, advanced technical skills, directing talent, and narrative storytelling.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** RTVF 120, RTVF 130; Upper division standing or instructor consent.

**Grading:** Graded

*RTVF 160 - Introduction to Screenwriting*

3 unit(s)

Basic principles and practices in writing scripts for film and/or television.

**Prerequisite(s):** RTVF 020, RTVF 030 and TA 100W, upper division standing or instructor consent.

**Grading:** Graded

*RTVF 161 - Advanced Screenwriting*

3 unit(s)

Each student develops an original screenplay through several drafts in this workshop. Drawing on constructive feedback from classmates and instructor. The course focuses on dramatic structure, character and plot development as well as visual language of the screen.

**Prerequisite(s):** RTVF 160.

**Grading:** Graded

*RTVF 180S - Individual Studies*

1-3 unit(s)

Directed study (special production or research projects) in specified fields not covered by offered courses.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*RTVF 181 - Modern Film History*

3 unit(s)

The history and evolution of the motion picture after 1945. Viewing of representative films, study and discussion of major world film movements, important directors, and key genres.

**Prerequisite(s):** RTVF 82, upper division standing or instructor consent.

**Grading:** Graded

*RTVF 183 - Critical Studies & Research in RTVF*

3 unit(s)

Critical and scholarly inquiry into established and emerging areas of criticism, theory and research in RTVF studies. Production of scholarly criticism and research.

**Prerequisite(s):** RTVF 10, RTVF 80, Upper Division standing or instructor consent.

**Grading:** Graded

*RTVF 185 - Special Topics in RTVF*

3 unit(s)

Special topics in radio, television and film. Contact department office for specific topic information. Open to all students whether lower division or upper-division standing. Repeatable for up to 6 units when topic changes.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*RTVF 192I - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*RTVF 198 - RTVF Internships, Portfolio, Career Prep*

3 unit(s)

Supervised internships with approved radio, television, film or media organizations. Written evaluation submitted by sponsor and student after field work. Repeatable for credit up to 6 units.

*Misc/Lab: Lecture 3 hours/Activity 9 hours.*

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*RTVF 199H - Honors Program*

2-3 unit(s)

Demanding project demonstrating student's ability to do independent action and research. Written thesis or, in the case of the creative project, analysis and evaluation of the aesthetic problem; thesis to be defended orally by the student before a theatre arts staff committee. May be repeated once for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Senior standing/3.0 GPA; by invitation only.

**Grading:** Credit/No Credit

*TA 5 - Acting*

*3 unit(s)*

Basic acting class for non-theatre arts majors. Exploration of inner and external resources for performance, analysis of text and character, guidelines for successful rehearsal and performance. Learning to be seen, heard, understood and believed.

*Satisfies C1: Arts*

**Grading:** Graded

*TA 10 - Theatre Appreciation*

*3 unit(s)*

Study of the historical and cultural contexts of theatre around the world. Seeing and critical writing about plays. Hands-on experiences in the arts and crafts of live theatre.

*Satisfies C1: Arts*

**Grading:** Graded

*TA 11 - Script Analysis*

*3 unit(s)*

Detailed analysis of dramatic and screenplay scripts related to performance and production.

**Grading:** Graded

*TA 13 - Great Comedies for Theatre*

*3 unit(s)*

This course is designed to introduce students to comedic dramatic literature and the performance techniques to stimulate the proper audience response.

*Satisfies C2: Letters*

**Grading:** Graded

*TA 15 - Voice and Diction*

*3 unit(s)*

Voice production and articulation for the performer. Voice and speech improvement through guided exercises in posture/relaxation, respiration, phonation, resonance and articulation. Standard American diction taught through use of the International Phonetic Alphabet.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Grading:** Graded



*TA 17 - Intermediate Acting*

3 unit(s)

Scene Study class based on Stanislavsky Method. Students rehearse and memorize contemporary scenes performed for critique by the instructor. Acting techniques will focus on analysis, internal methods and characterization for playing scenes. Lab exercises additionally will include disciplined stage movement and improvisation techniques.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** TA 5

**Pre/Corequisite(s):** TA 11

**Grading:** Graded

*TA 48 - Voice & Movement for the Actor*

3 unit(s)

Course focuses on using voice & movement to understand different stages of human life, in its biological and cultural configurations we bring to the stage. Voice and movement shapes, unites and differentiates our communications and expressions as performers.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*TA 51A - Scenery and Props for the Performing Arts*

1 unit(s)

Introduction to facilities, materials and tools; safety guidelines for production shop and stage. Standard construction techniques and production vocabulary.

**Grading:** Graded

**Note(s):** Lec and Misc/Lab

*TA 51B - Costume for the Performing Arts*

1 unit(s)

Costume production laboratory introducing costume construction techniques and materials, basic alteration techniques, costume craft techniques; costume shop organization, management, personnel and equipment.

*Misc/Lab: Activity 2 hours.*

**Grading:** Graded

*TA 51C - Lighting & Sound for the Performing Arts*

1 unit(s)

Supervised hands-on activity with individual instruction in basic techniques and tools used in lighting and sound for the stage.

*Misc/Lab: Activity 2 hours.*

**Grading:** Graded

*TA 55 - Intro to Design for Theatre*

*3 unit(s)*

An introduction to the expansive field of visual and audio design for the performing arts, including scenic design, costume design, lighting design, sound design, and video/projection design. In exploring the practice of these rapidly evolving forms, students will exercise strategies for applying creative, fine-arts based solutions to a variety of challenges. Students will learn how theatrical designers collaborate and respond to literary prompts, such as play scripts, with art and technology to create physiological environments that impart psychological and social meanings. Students will also have opportunities to participate directly in university productions through a hands-on practicum (lab) component.

*2 hours of Activity/2 hours Lecture.*

*Satisfies C1: Arts.*

**Grading:** Graded

*TA 64 - Make-up for Performing Arts*

*3 unit(s)*

Makeup techniques for stage, television, film and print. Course covers makeup design, makeup materials and two dimensional application techniques. Laboratory work on actual stage productions, video and film shoots.

*Misc/Lab: Lecture/demonstration 2 hours/lab 2 hours.*

**Grading:** Graded

*TA 91 - Scenic Painting & Props*

*1-3 unit(s)*

Supervised hands-on activity with individual instruction in basic techniques and tools essential to successful stage production in scene painting for the theatre, as well as the many facets of being a property master for theatrical productions. Repeatable for credit up to 6 units.

*Misc/Lab: Lecture 2 hours/lab 2 hour.*

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*TA 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*TA 100W - Writing Workshop: Theatre Arts*

*3 unit(s)*

Development of skills appropriate to the theatre profession: criticism, research, publicity and promotion materials, and

cover letter and resume composition. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Radio/Television/Film, Theatre Arts, Dance, Animation/Illustration, Special Majors (BA). Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*TA 103 - Musical Theatre*

*3 unit(s)*

The repertoire of musical theatre with intensive training in appropriate acting, singing and dance techniques.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*TA 110 - Advanced Acting*

*3 unit(s)*

Preparation, analysis and presentation of styles ranging from Chekhov to Shakespeare are the basis of this advanced scene-study course. Exploration of roles to develop authority, characterization, range and clarity are at the core of this class. Repeatable once for credit.

*Misc/Lab: Lecture 2 hours/lab 3 hours*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** TA 11, TA 17 and instructor consent.

**Grading:** Graded

*TA 112 - Rehearsal and Performance*

*3 unit(s)*

Analysis and production of a dramatic work that presents unusual problems of background, interpretation, style or meaning. Lectures, discussions, readings; rehearsal of play and participation in other aspects of the final production.

*Misc/Lab: Lab hours required.*

**Prerequisite(s):** TA 15, TA 5, TA 17 or instructor consent.

**Grading:** Graded

*TA 113 - Acting and Professional Career Prep*

*3 unit(s)*

External techniques for playing a role and for beginning a professional career in acting for stage and film are the

primary focus of this class. Exercises in the TV studio and theatre will focus on quick study, taking stage, commercial auditions and voice-over practice, along with resume/picture/portfolio selection, audition techniques, selecting an agent, finding work.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Prerequisite(s):** TA 11, TA 17 or instructor consent.

**Grading:** Graded

*TA 116 - Directing*

*3 unit(s)*

Study and discussion of and practice in the fundamental principles of play direction; stage composition, movement, business, tempo; directing procedures; play selection and interpretation; problems in styles, casting and rehearsal and performance.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** TA 11, TA 5 or TA 17; TA 105.

**Grading:** Graded

*TA 117 - Practice in Acting or Directing*

*1 unit(s)*

Director analyzes, casts, rehearses scenes. The actor performs in a variety of roles. Repeatable for credit for up to 9 units when content changes.

*Activity 6 hours.*

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** TA 17 or instructor consent.

**Grading:** Graded

*TA 120 - Theatre History*

*3 unit(s)*

Examines the historical roots, many manifestations, and diversity of theatrical performances with particular attention to theatre's role within and between cultures.

**Prerequisite(s):** TA 11 or instructor consent.

**Grading:** Graded

*TA 121 - Topics in Performance History*

*3 unit(s)*

Examines relations between performance and unique historical/cultural conditions that motivate change or continuity in a specific area of performing arts. Not a historical survey, but a problem-centered course that focuses on developing the power to think historically about performance.

**Prerequisite(s):** TA 11 or instructor consent.

**Grading:** Graded

*TA 127 - Contemporary Theatre*

3 unit(s)

European and American playwrights from 1950 to the present and important theatre practices for this period.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*TA 128 - Scriptwriting*

3 unit(s)

Writing in dramatic form: plot structure, characterization, content and theme. Analysis of plays. Exercises in writing.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*TA 129 - Advanced Scriptwriting*

3 unit(s)

Writing in dramatic form-plays, film scripts, television scripts. Study and discussion of models. Criticism of student writing.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** TA 161 (or equivalent) and instructor consent. Upper division standing or instructor consent.

**Grading:** Graded

*TA 131 - Storytelling*

3 unit(s)

Course focuses on Storytelling and Creative Dramatics to teach Multiple Subject Credential Students theatre techniques.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*TA 144 - Shakespeare I*

4 unit(s)

Major plays such as Twelfth Night, Henry IV, Part I and Hamlet.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*TA 145 - Shakespeare and Performance*

4 unit(s)

Course examines in depth several of Shakespeare's plays, specifically addressing issues of performance. We will discuss each play in the context of its original performance during Shakespeare's time and its life on stage and screen in the ensuing centuries.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*TA 148 - Voice & Movement for Performance*

3 unit(s)

Explores the expressive, restorative and communicative nature of movement and voice as applied to human performance, the arts, therapy, education and management. Techniques focus on students developing their "natural voice" and exploring elements of physical expression by examining how the body can communicate story. Course content may change each semester and be tailored to be more advanced for those students repeating the course.

*Lecture 2 hours/lab 3 hours.*

*May be repeated 2 times for up to 6 units.*

**Prerequisite(s):** TA 48 or upper division standing.

**Grading:** Graded

*TA 151 - Lighting Design for Performing Arts*

3 unit(s)

Theory and practice of designing lighting for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in the theatre; and the skill of articulately presenting design ideas visually and orally.

*Misc./Lab: Lecture 2 hours/Activity 2 hours*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing, TA 51C or instructor consent.

**Grading:** Graded

*TA 152 - Studies in British Drama before 1800*

4 unit(s)

Offers students the opportunity to study drama of the influential early modern poets in England. This course is broadly construed, enabling individual professors to focus on topics relating to their particular areas of expertise and/or interests.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*TA 153 - Costume Design for Performing Arts*

3 unit(s)

Theory and practice of designing costumes for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in theatre; and the skill of articulately presenting design ideas visually and orally.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** TA 51B or instructor consent

**Grading:** Graded

*TA 154 - Scenic Design for Performing Arts*

3 unit(s)

Theory and practice of designing scenery for the performing arts. Presents broad-based understanding of the design process and responsibilities; the importance of collaboration and communication in theatre; and the skill of articulately presenting design ideas visually and orally.

*Misc/Lab: Lecture 3 hours/Activity 3 hours*

**Prerequisite(s):** TA 51A or instructor consent

**Grading:** Graded

*TA 158 - Model Making & Drafting Film & Theatre*

3 unit(s)

Explores the processes, methods, tools, and skills used for scale model making and drafting for stage and screen.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*TA 161 - Theatre Design Topics*

3 unit(s)

Discussion of theatre design including scenic, property, costume, makeup, lighting, sound and facility design. Subject matter varies depending on specialty of faculty. Course is repeatable for credit.

*Lecture 2 hours/activity 2 hours.*

*Repeatable for credit.*

**Prerequisite(s):** TA 55 and upper division standing, or instruct consent.

**Grading:** Graded

*TA 167 - Theatre in Education*

3 unit(s)

Materials, problems and techniques of producing formal drama with and for children at the school, community and professional levels.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*TA 168 - Stage Management*

*3 unit(s)*

Planning, communication, organizational structure and stage management practices including responsibility, communication, audition and rehearsal supervision, audience services coordination and working relationship with performance and production staff. Health and safety issues for performers and technical staff. Repeatable for credit up to 6 units.

*Misc/Lab: Lecture 2 hours/lab 1 hour.*

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*TA 170A - Acting and Directing for the Camera*

*3 unit(s)*

Acting techniques, voice and microphone use, movement for camera, gesture and the frame, role analysis for non-sequential performance, concentration, relaxation. Preparation, performance and critique of taped scenes.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** RTVF 130 or TA 17.

**Grading:** Graded

*TA 170B - Advanced Acting and Directing for the Camera*

*3 unit(s)*

Using the grammar of film and narrative storytelling to direct, produce and write contemporary film and television scenes. Use of single- and multi-camera techniques.

*Lecture 2 hours/Activity 2 hours.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** TA 170A or RTVF 130 or RTVF 132A.

**Grading:** Graded

*TA 172 - The Arts in U.S. Society*

*3 unit(s)*

Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity.

*Satisfies SJSU Studies S: Self, Society & Equality in US*



**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*TA 173 - Thinking About Contemporary World Arts*

3 unit(s)

An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*TA 180 - Individual Studies*

1-3 unit(s)

Directed study in specified fields not covered by offered courses.

**Prerequisite(s):** Department chair consent.

**Grading:** Credit/No Credit

*TA 191 - Activity Projects in Theatre Production*

1-3 unit(s)

Supervised activity with individual instruction in scenic construction, lighting, sound, painting, properties, costuming and makeup for regularly-scheduled production of plays. Repeatable for credit.

*Activity 6 hours*

*Course may be repeated for credit for up to 12 units.*

**Pre/Corequisite(s):** TA 51A, TA 51B, & TA 51C or instructors consent.

**Grading:** Graded

*TA 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*TA 198 - Internship*

3 unit(s)

Supervised internships with approved radio, television or theatre organizations. Written evaluation submitted by sponsor and student after field work. Repeatable for credit up to 6 units.

*Misc/Lab: Lecture 3 hours/Activity 6 hours*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Junior or senior standing and instructor consent.

**Grading:** Graded

*TA 199H - Honors Program*

2-3 unit(s)

Demanding project demonstrating student's ability to do independent action and research. Written thesis or, in the case of the creative project, analysis and evaluation of the aesthetic problem; thesis to be defended orally by the student before a theatre arts staff committee. May be repeated once for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Senior standing/3.0 GPA; by invitation only.

**Grading:** Credit/No Credit

*TA 225 - Seminar in Shakespeare*

4 unit(s)

A close study of selected plays and of selected major issues in Shakespearean criticism. With prior permission of graduate advisor may be repeatable once for credit.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*TA 231R - Performing Presentational Aesthetics*

4 unit(s)

Explores the practice and theory of presentational aesthetics through performance. Students will acquire the skills of writing, adapting, directing, and presenting performances of literary texts, ethnographic interviews, and social activism. Required of graduate students who wish to do thesis performances.

**Prerequisite(s):** Graduate standing, or instructor consent.

**Grading:** Graded

## Department of Humanities

**Office:** Clark Hall 419

**Telephone:** 408-924-4463

**Email:** [humanities@sjsu.edu](mailto:humanities@sjsu.edu)

**Website:** [www.sjsu.edu/hum](http://www.sjsu.edu/hum)

### **Professors**

Shannon Rose Riley, Chair  
Jennifer Rycenga, Interim Humanities Honors Coordinator  
Susan Verducci-Sandford

### **Associate Professors**

J. Todd Ormsbee  
Cynthia Rostankowski

### **Assistant Professors**

Erica Eva Colmenares  
Funie Hsu  
Chanh Cong Phan  
Daniel Lanza Rivers

# **Welcome to the Humanities Department**

## **The home of Creative and Transdisciplinary Studies!**

In the twenty-first century, we find ourselves awash in accessible information - but most of us have never learned how to swim in this sea of ideas, histories, and creative works. The Humanities Department is the place where the skills of integration are taught within creative and transdisciplinary paradigms. Whether studying multiple art forms and creativity in the Creative Arts BA, combining subject matter in the Liberal Studies Teacher Prep BA in order to prepare to become a teacher, or integrating perspectives from various academic disciplines in one of the three concentrations in the Humanities BA (American Studies, Religious Studies, or Liberal Arts), our students find in the Humanities Department the place where they can think broadly and imaginatively. With a BA from Humanities, our students acquire the ability to dive deeply into the welter of wonders and ideas in the contemporary world, through comparative, historical, and innovative approaches.

Courses in the Humanities Department typically integrate history, literature, education, philosophy, religion, politics, and the arts. Most importantly, Humanities students develop analytical and expressive skills as well as an ability to read, write, and think clearly, especially about their roles in shaping various societies. Our students win writing awards and our graduates pursue careers in a variety of fields, including arts administration, education, law, journalism, library science, public service, art therapy, occupational therapy, social work, community development, and public relations. We are home to the renowned GE programs in Humanities Honors and American Civilization as well as to the popular Liberal Studies Teacher Prep BA, one of the largest teacher preparation majors on campus.

Students pursuing the Liberal Studies Teacher Prep BA are interested in teaching in elementary or middle school. The program is approved by the California Commission on Teacher Credentialing (CCTC) for subject matter preparation.

Students pursuing the Humanities BA explore a wide array of human experience in diverse locations, in various media, art, and literature, and in significant cultural forms such as religion and other cultural traditions. The BA has three concentrations to select from: American Studies, Comparative Religious Studies, and Liberal Arts.

Students pursuing the interdisciplinary Creative Arts BA explore creativity across the human lifespan and in different cultural contexts and conduct a sustained inquiry into their own creative process. Students take classes in more than one arts area and investigate different purposes of the arts and creativity in different cultural contexts. The Creative Arts Program, established in 1956, is the only interdisciplinary arts and creativity studies BA program in the CSU!

The Humanities Department also offers several minor programs, including American Studies, Area Studies, Asian Studies, Creative Arts, Comparative Religious Studies, Middle East Studies, and Humanities.

Advisors: Christian Jochim, Amy Li, J. Todd Ormsbee, Cynthia Rostankowski, Shannon Rose Riley, Jennifer Rycenga, Susan Verducci

## Humanities Honors GE Curriculum

The Humanities Honors Program offers a four-semester survey course in World Cultures and Societies, Honors (HUM 1A/HUM 1B) and Modern World Cultures, Honors (HUM 2A/HUM 2B), which provides students with 24 units of core General Education in a format that emphasizes the interrelationship of art, literature, philosophy and social institutions. Core General Education requirements satisfied are: Oral Communication (3 units), Written Communication 1A (3 units), Critical Thinking and Writing (3 units), Arts & Letters (9 units), Comparative Systems (3 units), Social Issues (3 units), and American Institutions (AI) all areas US 1, 2, and 3. The course is interdisciplinary, globally focused, and team-taught, and is organized chronologically from the Ancient World through the Middle Ages, the Renaissance, the Early Modern and Contemporary periods. Entering students with an unweighted high school GPA of 3.0 and an SAT EBRW score of 575 or above are automatically eligible.

The Department also offers an upper division GE sequence in Advanced Honors in Integrated Science, Social Science, and Humanities (HUM 177A/HUM 177B), which covers SJSU Studies areas R, S, and V.

## American Cultures GE Curriculum

The American Cultures curriculum is a two-semester, twelve-unit sequence which satisfies over one-fourth of all lower division general education requirements. Together, AMS 1A and AMS 1B provide six units of general education credit in arts and letters (Area C), six units in comparative systems and social issues (Area D), and satisfy the California Education Code American Institutions requirements in U.S. History, U.S. Constitution and California Government (Areas US1, US2, US3). The courses provide the opportunity to study America's development and current conditions through themes such as the American dream, environmental issues, and ethnic and women's studies.

## Undergraduate

### Creative Arts, BA

**Advisor: Shannon Rose Riley. M.F.A., Ph.D.**

#### Overview

Founded in 1956, the innovative Creative Arts Program is the only interdisciplinary arts and creativity studies program in the CSU. The program offers a flexible, interdisciplinary curriculum that examines creativity across the arts

domains and emphasizes both creative and critical thinking. Offered by the Department of Humanities, students take core courses in creative arts in combination with art, English, comparative literature, music, dance, radio, film, and theatre courses, individualizing their program of study. We offer a major and a minor in Creative Arts. Key to the Program is an emphasis on creative thinking and the creative process-as a result, our students become effective thinkers and problem-solvers. Our graduates go on to become successful visual and performing artists, teachers, arts administrators, activists, software developers, software engineers, physicians, writers, sound recording engineers, costume designers, arts therapists, librarians, lawyers, and entrepreneurs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 32

Major Preparation 3

Major Requirements 45

University Electives 40

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

The following Required Major courses must be completed with a grade of "C- or better": CA 172, CA 173, CA 175, CA 176 and CA 178.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (3 units)

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)* (Z)

## Major Requirements (45 units)

To qualify for a baccalaureate in Creative Arts, a grade of "C" (2.0) or better is required in each of the following courses:

- CA 172 - The Arts in U.S. Society 3 unit(s)
- CA 173 - Thinking About Contemporary World Arts 3 unit(s)
- CA 175 - Seminar in Creative Process 3 unit(s)
- CA 176 - Creativity and Creative Leadership 3 unit(s)
- CA 178 - Senior Seminar in Creative Arts 3 unit(s)

## Lower Division Courses (9 units)

- CA 60 - Creativity Matters 3 unit(s) (E)

## Non-Studio, Non-Activity Courses

Six units of lower division non-studio, non-activity courses in history or theory in 2 disciplines selected from the following: Art; Art History; Comparative Literature; Dance; Design; English; Music; Radio, Television, Film; Theatre Arts; and others approved by the CAP Advisor

- CA 95 - Introduction to Queer Arts 3 unit(s) (C1)
- DANC 10 - Dance Appreciation 3 unit(s) (C1)
- ENGL 10 - Great Works of Literature 3 unit(s) (C2)
- ENGL 22 - Fantasy and Science Fiction 3 unit(s) (C2)
- MUSC 10A - Music Appreciation 3 unit(s) (C1)
- MUSC 19 - Music in World Cultures 3 unit(s) (C1)
- RTVF 82 - Introduction to Film History 3 unit(s)
- RTVF 31 - Film and Television Aesthetics 3 unit(s)
- TA 10 - Theatre Appreciation 3 unit(s) (C1)

## Activity or Studio Courses (6 units)

Six units of activity or studio courses in visual or performing arts or creative writing listed below or approved by the CAP Advisor

- ART 12 - Two-Dimensional Design and Color Concepts 3 unit(s)
- ART 13 - Three-Dimensional Design Concepts 3 unit(s)
- ART 24 - Drawing I 3 unit(s)
- ART 26 - Drawing II 3 unit(s)
- DANC 40A - Topics in Modern Dance I 2 unit(s) (PE)
- DANC 42A - Topics in Jazz Dance I 2 unit(s) (PE)
- ENGL 71 - Creative Writing 3 unit(s) (C2)
- TA 5 - Acting 3 unit(s) (C1)
- TA 17 - Intermediate Acting 3 unit(s)
- TA 48 - Voice & Movement for the Actor 3 unit(s) (E)

## Upper Division Courses (9 units)

Nine unit program of study of upper division courses in two or more arts disciplines selected primarily from the following: Art; Art History; Comparative Literature; Dance; Design; English; Music; Radio, Television, Film; Theatre Arts; World Languages and Literatures (literature only); or for a complete list of electives, see the Creative Arts Advisor

- ART 110 - History and Theory of New Media 3 *unit(s)*
- ARTH 126 - History of Photography 3 *unit(s)*
- AMS 179 - American Popular Culture 3 *unit(s)*
- CA 134 - Religion Film & Media 3 *unit(s)*
- DANC 102 - Dance in World Cultures 3 *unit(s)* (V)
- DANC 148 - Children's Dance 3 *unit(s)*
- ENGL 176 - The Short Story 4 *unit(s)*
- RTVF 111 - Alternative Cinema 3 *unit(s)* (V)
- RTVF 181 - Modern Film History 3 *unit(s)*
- SPAN 120A - Spanish Literature I 4 *unit(s)*
- TA 120 - Theatre History 3 *unit(s)*
- TA 121 - Topics in Performance History 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*

### Creative Arts Courses (21 units)

- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- CA 175 - Seminar in Creative Process 3 *unit(s)*
- CA 176 - Creativity and Creative Leadership 3 *unit(s)*
- CA 178 - Senior Seminar in Creative Arts 3 *unit(s)*

### Complete Six Units From:

- CA 139 - Teaching Diversity through Art 3 *unit(s)*
- CA 150 - Field Experience in the Arts 3 *unit(s)*
- CA 174 - Special Topics Seminar 3 *unit(s)*
- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*
- CA 180 - Individual Studies 1-4 *unit(s)*
- CA 190 - Field Work/Internship 1-3 *unit(s)*
- CA 194 - Community Building through Arts Orgs 3 *unit(s)*
- RELS 120 - Censors and Icons: Arts and Religion 3 *unit(s)*

### University Electives (40 units)

### Total Units Required (120 units)

## Humanities, American Studies Concentration, BA

- Department of Humanities
- Program Learning Outcomes

### Summary of Degree Units



University Graduation Requirements 44

Major Preparation	0-24
Major Core Requirements	33
Concentration Electives	12-16
University Electives	3-31
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

Students in this major should consult their advisor regarding American Institutions requirement. Depending on sequence(s) a student chooses, 0-30 units of GE/AI can be met in the major.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 unit(s) (Z)

## Recommended Major Preparation (0-24 units)

*Recommended that native students complete one of the sequences below, in consultation with Advisor. Any student who completes the American Institutions requirement will have met this area.*

### Complete One Sequence From:

#### American Civilization

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

#### World History

- HIST 1A - World History to 1500 3 unit(s)
- HIST 1B - World History from 1500 3 unit(s)

#### Western Civilization

- HIST 10A - Western Civilization 3 unit(s) (D2)
- HIST 10B - Western Civilization 3 unit(s) (D2)

#### Humanities

*(must take all 4 courses)*

- HUM 1A - Honors - World Cultures and Societies A 6 unit(s) (M8)
- HUM 1B - Honors - World Cultures and Societies B 6 unit(s) (M15)
- HUM 2A - Honors - Modern World Cultures A 6 unit(s) (M14)
- HUM 2B - Honors - Modern World Cultures B 6 unit(s) (M13)

## Major Requirements (45 units)

### Core Courses (12 units)

- HUM 80 - Reading the World 3 *unit(s)* (A3)
- HUM 101 - Human Life: Let's Think About It 3 *unit(s)*
- HUM 160 - Special Topics in Humanities 3 *unit(s)*
- HUM 190 - Senior Seminar in Humanities 3 *unit(s)*

### Comparative Courses (12 units)

Complete four courses from:

- AMS 129 - How the World sees the United States 3 *unit(s)*
- AMS 159 - Nature and World Cultures 3 *unit(s)* (V)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- HUM 119 - Myths, Heroes, and Global Cultures 3 *unit(s)*
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 *unit(s)* (V)
- RELS 120 - Censors and Icons: Arts and Religion 3 *unit(s)*
- RELS 131 - Gender, Sexuality, and Religion 3 *unit(s)*

### Additional Major Courses (9 units)

Choose three in addition to any American Studies course chosen above.

- AMS 129 - How the World sees the United States 3 *unit(s)*
- AMS 160 - Special Topics in Humanities 3 *unit(s)*
- AMS 169 - The American Dream 3 *unit(s)* (S)
- AMS 179 - American Popular Culture 3 *unit(s)*
- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- RELS 162 - Religion and Political Controversy in the US 3 *unit(s)* (S)

### Major Electives (12-16 units)

**Choose Four Courses From The Following Lists In One Of Three Ways: Topical, Time Period, Or Courses Chosen Evenly Across Multiple Disciplines. Consult American Studies Advisor For More Information And Options.**

Values and Ideas:

- AAS 185 - Multicultural Perspectives within American Society 3 *unit(s)*
- JS 132 - Race, Gender, Inequality and the Law 3 *unit(s)* (S)
- HIST 173 - New World Encounters, 1400-1750 4 *unit(s)*
- PHIL 112 - American Philosophy 3 *unit(s)*
- POLS 121C - Constitutional Law: Civil Rights 4 *unit(s)*
- POLS 163 - American Political Thought 3 *unit(s)*
- RELS 162 - Religion and Political Controversy in the US 3 *unit(s)* (S)

- RELS 191 - Religion in America 3 *unit(s)* (S)

### Arts & Popular Culture:

- AFAM 102 - African-American Music 3 *unit(s)*
- AFAM 161 - Black Representations in Media and New Technology 3 *unit(s)*
- ARTH 182A - Art of the Americas 3 *unit(s)*
- ARTH 182B - American Art 3 *unit(s)*
- COMM 169I - The Media: Response and Criticism 4 *unit(s)*
- ENGL 162 - Studies-American Literature Before 1865 4 *unit(s)*
- ENGL 163 - American Literature: 1865-1945 4 *unit(s)*
- ENGL 168 - The American Novel 4 *unit(s)*
- MUSC 120 - Worlds of Jazz 3 *unit(s)* (S)
- TA 103 - Musical Theatre 3 *unit(s)*

### Economics, History, Politics and Society:

- AFAM 159 - Economic Issues in the Black Community 3 *unit(s)*
- ENVS 135 - U.S. Environmental Policy 3 *unit(s)*
- GEOG 140 - The United States 3 *unit(s)*
- HIST 173 - New World Encounters, 1400-1750 4 *unit(s)*
- HIST 174 - Colonial & Revolutionary America 4 *unit(s)*
- HIST 175 - Inventing America, 1800-1860 4 *unit(s)*
- HIST 176 - The Civil War and Reconstruction 4 *unit(s)*
- HIST 177 - Industrial America, 1877-1920 4 *unit(s)*
- HIST 178 - Crash, Depression and War, 1920-1950 4 *unit(s)*
- HIST 179 - Cold War America, 1950-Present 4 *unit(s)*
- HIST 181 - Advanced Topics in American History 4 *unit(s)*
- POLS 154 - U.S. Foreign Policy: Formulation and Administration 4 *unit(s)*

### Gender, Family and Sexuality:

- AFAM 125 - The Black Family: Historical/Contemporary Realities 3 *unit(s)*
- AFAM 152 - Black Women in the U.S. 3 *unit(s)*
- HIST 188 - History of Women in the United States 3 *unit(s)* (S)
- LING 129 - Culture, Language and Ethnicity in the U.S. 3 *unit(s)* (S)
- CCS 160 - Gender and Sexuality in the Chicana/o Community 3 *unit(s)* (S)
- SOCI 172 - Lesbian, Gay, Bi, Transgender Studies 3 *unit(s)*
- WOMS 160 - Queering Gender, Race, and Class 3 *unit(s)*

### Race, Ethnicity and Immigration:

- AAS 125 - Filipino Experience in the United States 3 *unit(s)*
- AAS 175 - Asian American Communities 3 *unit(s)* (S)
- AFAM 112 - African Immigrant Communities in the U.S. 3 *unit(s)*
- ANTH 164 - North America before 1492 3 *unit(s)*
- COMM 172F - Multicultural Communication in the United States 4 *unit(s)*

- ENGL 165 - Topics in Ethnic American Literature 4 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)* (S)
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)* (S)
- CCS 175 - Human Migrations: Global Reach 3 *unit(s)*
- SOCI 160 - Immigration and Identity 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)

## University Electives (3-31 units)

*The Department highly recommends majors complete the following:*

- One year of college level foreign language or equivalent related to chosen area 0-10 *unit(s)*

## Total Units Required (120 units)

## Humanities, Liberal Arts Concentration, BA

- Department of Humanities
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Core Requirements	24
Concentration Electives	24
University Electives	31
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

## Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

*Consult Major Advisor for department recommended coursework to meet GE requirement.*

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GWAR may be found at Graduation Writing Assessment Requirement (GWAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 unit(s) (Z)

## Major Requirements (48 units)

### Core Courses (24 units)

- HUM 80 - Reading the World 3 unit(s) (A3)
- HUM 101 - Human Life: Let's Think About It 3 unit(s)
- HUM 160 - Special Topics in Humanities 3 unit(s)
- HUM 190 - Senior Seminar in Humanities 3 unit(s)

### Comparative Courses (12 units)

Complete four courses from:

- AMS 129 - How the World sees the United States 3 unit(s)
- AMS 159 - Nature and World Cultures 3 unit(s) (V)
- CA 173 - Thinking About Contemporary World Arts 3 unit(s) (V)
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 unit(s) (V)
- RELS 131 - Gender, Sexuality, and Religion 3 unit(s)

### Major Electives (24 units)

**Choose Eight Courses From The Following, At Least Two From Each Area:**

#### Area 1: Global Humanities

- HUM 114 - Legacy of Asia 3 unit(s) (V)
- HUM 119 - Myths, Heroes, and Global Cultures 3 unit(s)
- HUM 120 - Renaissance, Reason and Romanticism 3 unit(s)
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 unit(s) (V)
- RELS 144 - Chinese Traditions 3 unit(s)
- RELS 145 - Middle Eastern Traditions 3 unit(s) (V)

#### Area 2: American Studies

- AMS 129 - How the World sees the United States 3 unit(s)
- AMS 159 - Nature and World Cultures 3 unit(s) (V)
- AMS 169 - The American Dream 3 unit(s) (S)
- AMS 179 - American Popular Culture 3 unit(s)

### Area 3: Creative Arts

- CA 95 - Introduction to Queer Arts 3 unit(s) (C1)
- CA 172 - The Arts in U.S. Society 3 unit(s) (S)
- CA 173 - Thinking About Contemporary World Arts 3 unit(s) (V)
- CA 176 - Creativity and Creative Leadership 3 unit(s)
- RELS 120 - Censors and Icons: Arts and Religion 3 unit(s)

### Area 4: Religious Studies

- RELS 122 - Magic, Science and Religion 3 unit(s) (V)
- RELS 131 - Gender, Sexuality, and Religion 3 unit(s)
- RELS 142 - Contemporary Buddhism and its Roots 3 unit(s)
- RELS 155 - Pagan Traditions 3 unit(s)
- RELS 161 - Varieties of Spiritual Experience 3 unit(s)
- RELS 162 - Religion and Political Controversy in the US 3 unit(s) (S)
- RELS 191 - Religion in America 3 unit(s) (S)

### University Electives (31 units)

*The Department highly recommends majors complete the following:*

- One year of college level foreign language or equivalent related to chosen area 0-10 unit(s)

### Total Units Required (120 units)

## Humanities, Religious Studies Concentration, BA

- Department of Humanities
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	3
Major Core Requirements	24
Concentration Electives	18-23
University Electives	35-40
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.



## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)* (Z)

### Major Preparation (3 units)

- RELS 70 - Gods, Guns, Gurus, Grails-World Religion 3 *unit(s)* (C2)

### Major Requirements (42-47 units)

#### Core Courses (12 units)

- HUM 80 - Reading the World 3 *unit(s)* (A3)
- HUM 101 - Human Life: Let's Think About It 3 *unit(s)*
- HUM 160 - Special Topics in Humanities 3 *unit(s)*
- HUM 190 - Senior Seminar in Humanities 3 *unit(s)*

#### Comparative Courses (12 units)

Complete four courses from:

- AMS 129 - How the World sees the United States 3 *unit(s)*
- AMS 159 - Nature and World Cultures 3 *unit(s)* (V)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- HUM 119 - Myths, Heroes, and Global Cultures 3 *unit(s)*
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 *unit(s)* (V)
- RELS 131 - Gender, Sexuality, and Religion 3 *unit(s)*

#### Major Electives (18-23 units)

**Six Courses From The Following, At Least Two From Each Area:**

## Traditions

- RELS 142 - Contemporary Buddhism and its Roots 3 *unit(s)*
- RELS 144 - Chinese Traditions 3 *unit(s)*
- RELS 145 - Middle Eastern Traditions 3 *unit(s)* (V)
- RELS 155 - Pagan Traditions 3 *unit(s)*
- RELS 156 - Islam, Politics and the West 3 *unit(s)*

## Religions and Cultures

- ENGL 116 - Myth in Literature 4 *unit(s)*
- RELS 90 - Bible History and Literature 3 *unit(s)* (C2)
- RELS 104 - Asian Philosophy 3 *unit(s)* (V)
- RELS 109 - Philosophy of Religion 3 *unit(s)*
- RELS 134 - Religion Film & Media 3 *unit(s)*
- RELS 161 - Varieties of Spiritual Experience 3 *unit(s)*

## Thoughts, Texts, and Images

- AFAM 134 - The Black Civil Rights Movements 3 *unit(s)*
- HIST 121A - Medieval Worlds, 400-1000 4 *unit(s)*
- HIST 121B - Medieval Worlds, 1000-1500 4 *unit(s)*
- HIST 122 - The Renaissance and Reformation 4 *unit(s)*
- HIST 126 - Advanced Topics in Medieval History 4 *unit(s)*
- RELS 99 - Death, Dying and Religions 3 *unit(s)* (E)
- RELS 111 - Special Topics in Jewish Studies 3 *unit(s)*
- RELS 114 - Legacy of Asia 3 *unit(s)* (V)
- RELS 120 - Censors and Icons: Arts and Religion 3 *unit(s)*
- RELS 122 - Magic, Science and Religion 3 *unit(s)* (V)
- RELS 137 - Religion in the Black Community 3 *unit(s)*
- RELS 162 - Religion and Political Controversy in the US 3 *unit(s)* (S)
- RELS 191 - Religion in America 3 *unit(s)* (S)

## University Electives (35-40 units)

The department recommends majors complete the following:

- One year of college level foreign language or equivalent related to chosen area 0-10 *unit(s)*

## Total Units Required (120 units)

# Liberal Studies, Integrated Teacher Education Program Spanish Bilingual, BA

The Liberal Studies Teacher Preparation - Integrated Teacher Education Program Bilingual (LSTP-ITEPB) combines the study of academic subjects aligned to California standards for the K-8 curriculum with professional preparation courses and field experiences leading to a preliminary Multiple Subject Credential (MSC) plus a Bilingual Authorization in Spanish. Successful completion of this ITEP leads to a Bachelor of Arts degree in Liberal Studies, a Multiple Subject Teaching Credential, and a Bilingual Authorization in Spanish.

The Liberal Studies, Integrated Teacher Education Program Spanish Bilingual, offered by the Department of Humanities, is approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 14

Major Core Requirements 88

Credential Courses 32

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (11 units)

### Core Lower Division General Education (9 units)

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (88 units)

### Reading, Language and Literature (18 units)

- EDEL 108A - Curriculum: Reading/Language Arts 2-6 *unit(s)*
- EDTE 162 - Meeting the Needs of Second Language Learners 3 *unit(s)*
- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (ENGL 1B also accepted for Transfer Students.)
- ENGL 112A - Children's Literature 3 *unit(s)*
- LING 107 - Patterns of English 3 *unit(s)*

### History and Social Science (18 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)
- LSTP 10 - Chronicles of Education 3 *unit(s)* (C2)
- LSTP 139 - Education and (In)Equality 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

### Complete One Course From:

- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)

### Mathematics (9 units)

- MATH 12 - Number Systems 3 *unit(s)* (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 106 - Intuitive Geometry 3 *unit(s)*

## Science (15 units)

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- ENV5 158 - Environmental Education 3 *unit(s)*
- GEOL 103 - Earth Systems and the Environment 3 *unit(s)* (R)
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)

## Visual and Performing Arts (9 units)

- CA 70 - Visual & Media Arts for K-8 Teachers 3 *unit(s)*  
or CA 75 - Performing Arts for K-8 Teachers
- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*
- MUSC 10B - Introduction to Music 3 *unit(s)*

## Physical Education and Health (3 units)

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

## Human Development (3 units)

Complete one course from:

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)

## Spanish Language (4 units)

- SPAN 101A - Advanced Spanish 4 *unit(s)*

## Advanced Writing (3 units)

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)* (Z)

## Field Study (6 units)

- LSTP 85A - Fieldwork in Humanities A 1 *unit(s)*
- LSTP 85B - Fieldwork in Humanities B 1 *unit(s)*
- LSTP 85C - Fieldwork in Humanities C 1 *unit(s)*
- LSTP 185 - Field Experience in Humanities 3 *unit(s)*

## Credential Courses (32 units)

### Credential Core Courses (9 units)

- EDEL 102 - Psychological Foundations of Education 3 *unit(s)*

- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy 3 *unit(s)*

## Methods (9 units)

- EDEL 108B - Curriculum: Science 1-3 *unit(s)* (3 *units required*)
- EDEL 108C - Curriculum: Social Studies 1-3 *unit(s)* (3 *units required*)
- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 *units required*)

## Student Teaching (14 units)

- EDEL 143A - Beginning Student-Teaching (Phase I) 1-6 *unit(s)* (4 *units required*)
- EDEL 143B - Advanced Student-Teaching (Phase II) 1-10 *unit(s)* (10 *units required*)

## Total Units Required (134 units)

- Freshmen and transfer students enter as Liberal Studies Teacher Preparation majors. Students apply for the ITEPB in the first semester of their junior year. Applicants must meet credential program standards and undergo screening for admission.
- All ITEPB students must take a Spanish Placement Test in their first semester to determine which Spanish language course(s) are needed to meet the prerequisite for SPAN 101A (four semesters of college Spanish or equivalent).
- All ITEPB students must take LSTP 139, EDTE 162, and EDEL 108A in Spanish.
- All ITEPB students must do student teaching (EDEL 143A and EDEL 143B) in Spanish bilingual classrooms.
- All courses required for the credential must be completed with a grade of C or higher, unless otherwise noted. The cumulative GPA for all credential courses must be 3.0 or higher.

# Liberal Studies, Integrated Teacher Education Program, BA

The Liberal Studies Teacher Preparation - Integrated Teacher Education Program (LSTP-ITEP) combines the study of academic subjects aligned to California standards for the K-8 curriculum with professional preparation courses and field experiences leading to a preliminary Multiple Subject Credential (MSC). Successful completion of this ITEP leads to both a Bachelor of Arts degree in Liberal Studies and a Multiple Subject Teaching Credential.

The Liberal Studies, Integrated Teacher Education Program, offered by the Department of Humanities, is approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 8

Major Core Requirements 90

Credential Courses 32

**Total** **120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (8 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).



*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (90 units)

### Reading, Language and Literature (18 units)

- EDEL 108A - Curriculum: Reading/Language Arts 2-6 *unit(s)*
- EDTE 162 - Meeting the Needs of Second Language Learners 3 *unit(s)*
- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (ENGL 1B also accepted for Transfer Students.)
- ENGL 112A - Children's Literature 3 *unit(s)*
- LING 107 - Patterns of English 3 *unit(s)*

### History and Social Science (24 units)

- AMS 1A - American Cultures to 1877 6 *unit(s)* (M4)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)
- LSTP 10 - Chronicles of Education 3 *unit(s)* (C2)
- LSTP 139 - Education and (In)Equality 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

### Complete One Course From:

- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)

### Mathematics (9 units)

- MATH 12 - Number Systems 3 *unit(s)* (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 106 - Intuitive Geometry 3 *unit(s)*

### Science (15 units)

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- ENVS 158 - Environmental Education 3 *unit(s)*
- GEOL 103 - Earth Systems and the Environment 3 *unit(s)* (R)
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)

### Visual and Performing Arts (9 units)

- CA 70 - Visual & Media Arts for K-8 Teachers 3 *unit(s)*
- CA 75 - Performing Arts for K-8 Teachers 3 *unit(s)*
- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*

## Physical Education and Health (3 units)

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

## Human Development (3 units)

Complete one course from:

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)

## Advanced Writing (3 units)

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)* (Z)

## Field Study (6 units)

- LSTP 85A - Fieldwork in Humanities A 1 *unit(s)*
- LSTP 85B - Fieldwork in Humanities B 1 *unit(s)*
- LSTP 85C - Fieldwork in Humanities C 1 *unit(s)*
- LSTP 185 - Field Experience in Humanities 3 *unit(s)*

## Credential Courses (32 units)

### Credential Core Courses (9 units)

- EDEL 102 - Psychological Foundations of Education 3 *unit(s)*
- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDTE 260 - Critical Perspectives on Schooling for a Pluralist Democracy 3 *unit(s)*

### Methods (9 units)

- EDEL 108B - Curriculum: Science 1-3 *unit(s)* (3 *units required*)
- EDEL 108C - Curriculum: Social Studies 1-3 *unit(s)* (3 *units required*)
- EDEL 108D - Curriculum: Mathematics 1-3 *unit(s)* (3 *units required*)

### Student Teaching (14 units)

- EDEL 143A - Beginning Student-Teaching (Phase I) 1-6 *unit(s)* (4 *units required*)
- EDEL 143B - Advanced Student-Teaching (Phase II) 1-10 *unit(s)* (10 *units required*)

## Total Units Required (130 units)

- All freshmen and transfer students enter as Liberal Studies Teacher Preparation majors. Students apply for the ITEP in the first semester of their junior year. Applicants must meet credential program standards and undergo screening for admission.

- All courses required for the credential must be completed with a grade of C or higher, unless otherwise noted. The cumulative GPA for all credential courses must be 3.0 or higher.

## Liberal Studies, Preparation for Teaching, BA

This major is designed for students interested in teaching in elementary school or middle school. The following course work, offered by the Department of Humanities, satisfies San José State University's requirements for a BA in Liberal Studies and is a program approved by the California Commission on Teacher Credentialing (CCTC) for waiver of the subject matter examination (CSET for Multiple Subjects) required to earn a teaching credential.

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 8

Major Core Requirements 87-97

Area of Specialization 12

University Electives 3-13

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (8 units)

### Core Lower Division General Education (6 units)

Of the 39 units required by the university, 33 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (99-109 units)

### Reading, Language and Literature (18-19 units)

- ENGL 1A - First Year Writing 3 unit(s) (A2)
- ENGL 2 - Critical Thinking and Writing 3 unit(s) (A3) (ENGL 1B also accepted for Transfer Students.)
- ENGL 112A - Children's Literature 3 unit(s)

### Complete One Course From:

- ENGL 103 - Modern English 4 unit(s)
- LING 107 - Patterns of English 3 unit(s)

### Complete One Sequence From:

#### Linguistics

- EDEL 108E - Teaching Reading in Linguistically and Culturally Diverse Classrooms 3 unit(s)
- LING 108 - Introduction to Second Language Development, Teaching, and Assessment 3 unit(s)

## Development

- CHAD 150 - Development of Communicative Competence 3 *unit(s)*
- CHAD 151 - Developing Literacy in a Diverse Society 3 *unit(s)*

## History and Social Science (15-21 units)

- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

## Complete One Sequence From:

### American History

- AMS 1A - American Cultures to 1877 6 *unit(s)* (M4)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)

### Asian American History

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### US History

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano History

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Mathematics (9 units)

- MATH 12 - Number Systems 3 *unit(s)* (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 106 - Intuitive Geometry 3 *unit(s)*

## Science (15 units)

- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- GEOL 103 - Earth Systems and the Environment 3 *unit(s)* (R)
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)

### Complete One Course From:

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)
- ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)

### Complete One Course From:

- ENVS 158 - Environmental Education 3 *unit(s)*
- SCI 110 - Global Themes of Science 3 *unit(s)*

### Visual and Performing Arts (9 units)

- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*

### Complete Six Units in Two Different Art Disciplines:

- ART 39 - Multicultural Arts for Children 3 *unit(s)*
- ART 138 - Elementary Art Methods 3 *unit(s)*
- CA 70 - Visual & Media Arts for K-8 Teachers 3 *unit(s)*
- CA 75 - Performing Arts for K-8 Teachers 3 *unit(s)*
- DANC 148 - Children's Dance 3 *unit(s)*
- MUSC 10B - Introduction to Music 3 *unit(s)* (C1)
- MUSC 185A - Music for Children 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*
- TA 167 - Theatre in Education 3 *unit(s)*

### Physical Education and Health (3-6 units)

#### Complete One Sequence From:

#### Health Education

- KIN 177 - Movement Experiences for Children 3 *unit(s)*
- EDTE 190 - Health Education for the Classroom Teacher 3 *unit(s)*

#### Child Health

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

### Human Development (3 units)

#### Complete one course from:

- CHAD 60 - Child Development 3 *unit(s)* (E)
- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)

## Introduction to Liberal Studies (3 units)

- LSTP 10 - Chronicles of Education 3 *unit(s)* (C2)

## Area of Specialization (12 units)

Complete 12 units from below distinct from core coursework.

*Six units may be lower division.*

- AMS 1A - American Cultures to 1877 6 *unit(s)* (M4)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (M5)
- AMS 129 - How the World sees the United States 3 *unit(s)*
- AMS 169 - The American Dream 3 *unit(s)* (S)
- AMS 179 - American Popular Culture 3 *unit(s)*
- CA 60 - Creativity Matters 3 *unit(s)* (E)
- CA 95 - Introduction to Queer Arts 3 *unit(s)* (C1)
- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- CA 175 - Seminar in Creative Process 3 *unit(s)*
- CA 176 - Creativity and Creative Leadership 3 *unit(s)*
- HUM 114 - Legacy of Asia 3 *unit(s)* (V)
- HUM 119 - Myths, Heroes, and Global Cultures 3 *unit(s)*
- HUM 120 - Renaissance, Reason and Romanticism 3 *unit(s)*
- HUM 159 - Nature and World Cultures 3 *unit(s)* (V)
- HUM 177A - Advanced Honors in Integrated Science, Social Science, and Humanities 6 *unit(s)*
- HUM 177B - Advanced Honors in Integrated Science, Social Science, and Humanities 3 *unit(s)* (RSV)
- LSTP 139 - Education and (In)Equality 3 *unit(s)* (S)
- RELS 70 - Gods, Guns, Gurus, Grails-World Religion 3 *unit(s)* (C2)
- RELS 90 - Bible History and Literature 3 *unit(s)* (C2)
- RELS 99 - Death, Dying and Religions 3 *unit(s)* (E)
- RELS 120 - Censors and Icons: Arts and Religion 3 *unit(s)*
- RELS 122 - Magic, Science and Religion 3 *unit(s)* (V)
- RELS 131 - Gender, Sexuality, and Religion 3 *unit(s)*
- RELS 142 - Contemporary Buddhism and its Roots 3 *unit(s)*
- RELS 145 - Middle Eastern Traditions 3 *unit(s)* (V)
- RELS 162 - Religion and Political Controversy in the US 3 *unit(s)* (S)
- RELS 191 - Religion in America 3 *unit(s)* (S)
- Any relevant HUM 160 course with advisor approval

## Advanced Writing (3 units)

- HUM 100W - Writing in the Humanities & Interdisciplinary Arts 3 *unit(s)* (Z)

## Field Study (6 units)

- LSTP 85A - Fieldwork in Humanities A 1 *unit(s)*

- LSTP 85B - Fieldwork in Humanities B *1 unit(s)*
- LSTP 85C - Fieldwork in Humanities C *1 unit(s)*
- LSTP 185 - Field Experience in Humanities *3 unit(s)*

### Capstone Course (3 units)

- HUM 190 - Senior Seminar in Humanities *3 unit(s)*

### University Electives (3-13 units)

### Total Units Required (120 units)

## Minor

### American Studies Minor

This interdisciplinary program offers students the opportunity to study American culture and society. In addition to the focus on a better understanding of American culture, there is emphasis upon analytic skills, close reasoning, and effective communication, providing useful preparation for graduate study, for elementary or secondary teaching, or for careers in law, public service or government.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements

#### Plan A (21 units)

- AMS 1A - American Cultures to 1877 *6 unit(s) (M4)*
- AMS 1B - American Cultures 1877 to present *6 unit(s) (M5)*
- AMS 169 - The American Dream *3 unit(s) (S)*
- AMS 179 - American Popular Culture *3 unit(s)*
- AMS 190 - Senior Seminar in Humanities *3 unit(s)*

#### Plan B (18 units)

- AMS 159 - Nature and World Cultures *3 unit(s) (V)*
- AMS 160 - Special Topics in Humanities *3 unit(s)*
- AMS 169 - The American Dream *3 unit(s) (S)*
- AMS 179 - American Popular Culture *3 unit(s)*
- AMS 190 - Senior Seminar in Humanities *3 unit(s)*
- HUM 101 - Human Life: Let's Think About It *3 unit(s)*



## Total Units Required (18-21 units)

### Area Studies Minor

The minor in Area Studies provides an opportunity for concentrated study in the history, politics, economics, geography, or culture of one of four designated regions of the world.

With the consent of the advisor for the Area Studies minor, a student may select courses concerning aspects of one of the following regions - East and Southeast Asia, Africa and the Middle East, Latin America, or Europe (inclusive of Russia) - and global courses from a general list.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (12 units)

- Three courses from one of the designated regions *9 unit(s)*
- One general courses *3 unit(s)*

## Total Units Required (12 units)

### Asian Studies Minor

The Asian Studies minor will acquaint students with the histories, traditional cultures and contemporary conditions of Asian countries and societies. Courses may be selected from anthropology, art, business, foreign languages, geography, history, music philosophy, political science, and religious studies.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements

#### Group A (6-9 units)

Complete six to nine units from:

- ARTH 70C - Arts of Asia *3 unit(s) (C1)*
- ARTH 193B - East Meets West in Art *3 unit(s) (V)*
- ARTH 194A - Art of China *3 unit(s)*
- ARTH 195 - Art of Japan *3 unit(s)*
- CHIN 102 - Chinese Culture *4 unit(s)*
- CHIN 140 - Chinese Culture and Politics Through Literature *3 unit(s) (V)*
- HUM 114 - Legacy of Asia *3 unit(s) (V)*
- JPN 102A - Japanese Culture *4 unit(s)*

- LING 122 - English as a World Language 3 *unit(s)* (V)
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- MUSC 148B - Improvisational Traditions of the World - Asia 2 *unit(s)*
- PHIL 104 - Asian Philosophy 3 *unit(s)* (V)
- RELS 70 - Gods, Guns, Gurus, Grails-World Religion 3 *unit(s)* (C2)
- RELS 142 - Contemporary Buddhism and its Roots 3 *unit(s)*
- RELS 144 - Chinese Traditions 3 *unit(s)*

## Group B (6-9 units)

Complete six to nine units from:

- ANTH 115 - The Emerging Global Culture 3 *unit(s)* (V)
- ANTH 177 - Anthropology of Asia 3 *unit(s)*
- BUS2 133B - Relationship Marketing: Pacific Rim 3 *unit(s)*
- GEOG 160 - East and South Asia 3 *unit(s)*
- HIST 109A - History of China 4 *unit(s)*
- HIST 109B - History of China 4 *unit(s)*
- HIST 110A - History of Japan 4 *unit(s)*
- HIST 110B - History of Japan 4 *unit(s)*
- POLS 145 - Asian Politics 4 *unit(s)*

## Group C (3-6 units)

Three to six units in a foreign language related to one's chosen area, such as Chinese, Japanese, Punjabi, or Vietnamese.

## Total Units Required (15-24 units)

# Creative Arts Minor

### Overview

Founded in 1956, the innovative Creative Arts Program is the only interdisciplinary arts and creativity studies program in the CSU. The program offers a flexible, interdisciplinary curriculum that examines creativity across the arts domains and emphasizes both creative and critical thinking. Students take core courses in creative arts in combination with art, English, comparative literature, music, dance, radio, film, and theatre courses, individualizing their program of study. We offer a major and a minor in Creative Arts. Key to the Program is an emphasis on creative thinking and the creative process-as a result, our students become effective thinkers and problem-solvers. Our graduates go on to become successful visual and performing artists, teachers, arts administrators, activists, software developers, software engineers, physicians, writers, sound recording engineers, costume designers, arts therapists, librarians, lawyers, and entrepreneurs.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

- CA 60 - Creativity Matters 3 *unit(s)* (E)
- Three units of course work in arts disciplines from any of the following departments/schools (three units in each): School of Art and Design, School of Music and Dance, RTVF Department, English and Comparative Literature Department, World Languages and Literatures Department (literature only) 3 *unit(s)*
- Three units of studio/activity courses in visual or performing arts or creative writing 3 *unit(s)*

## Upper Division Requirements (9 units)

### Complete One Course From:

- CA 175 - Seminar in Creative Process 3 *unit(s)*
- CA 176 - Creativity and Creative Leadership 3 *unit(s)*

### Complete One Course From:

- CA 174 - Special Topics Seminar 3 *unit(s)*
- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)* (CA 177 for Prospective Teachers)
- CA 194 - Community Building through Arts Orgs 3 *unit(s)*

### Complete One Course From:

- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)

## Total Units Required (18 units)

# Humanities Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18-21 units)

### Choose a Plan

#### Plan A (21 units)

- HUM 1B - Honors - World Cultures and Societies B 6 *unit(s)* (M15)
- HUM 2B - Honors - Modern World Cultures B 6 *unit(s)* (M13)
- HUM 190 - Senior Seminar in Humanities 3 *unit(s)*

### Complete Two Course From:

- HUM 119 - Myths, Heroes, and Global Cultures *3 unit(s)*
- HUM 120 - Renaissance, Reason and Romanticism *3 unit(s)*
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context *3 unit(s) (V)*
- HUM 160 - Special Topics in Humanities *3 unit(s)*
- Any upper division humanities course *3 unit(s)*

## Plan B (18 units)

- HUM 101 - Human Life: Let's Think About It *3 unit(s)*
- HUM 190 - Senior Seminar in Humanities *3 unit(s)*
- Twelve units of upper-division Humanities courses, as approved by the advisor *12 unit(s)*

## Total Units Required (18-21 units)

# Middle East Studies Minor

This interdisciplinary minor provides background for students whose professional goals include the promotion of mutual understanding, tolerance and peace in the region. The Middle East Studies minor is especially recommended to students seeking a career in international law, business, economic development, health care, education or religious studies. Courses encompass the disciplines of art history, anthropology, business, foreign languages, history, humanities, political science, sociology and religious studies.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18-20 units)

### Required Course (3 units)

- MDES 145 - Middle Eastern Traditions *3 unit(s) (V)*

### Traditions Courses (6 units)

Complete two courses from:

- RELS 70 - Gods, Guns, Gurus, Grails-World Religion *3 unit(s) (C2)*
- MDES 156 - Islam, Politics and the West *3 unit(s)*
- MDES 189 - Islamic Perspectives on Gender *3 unit(s)*

### Electives (6-7 units)

#### Complete Two Courses From:

#### Art History

- MDES 183A - Art of Egypt and Mesopotamia 3 *unit(s)*
- MDES 183C - Art of Islam 13th-19th Century 3 *unit(s)*

## Religious Studies

- MDES 90 - Bible History and Literature 3 *unit(s)* (C2)

## Political Science

- MDES 144 - Middle Eastern Politics 4 *unit(s)*

## University Electives (3-4 units)

- ANTH 11 - Cultural Anthropology 3 *unit(s)* (D1)
- ANTH 146 - Culture and Conflict 3 *unit(s)* (V)
- BUS2 133A - International Marketing 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*
- BUS3 161A - Applied Organizational Behavior 3 *unit(s)*
- COMM 174 - Intercultural Comm & Struct Inequality 3 *unit(s)* (S)
- GEOG 12 - Global Geography 3 *unit(s)* (D2)
- MDES 180 - Individual Studies 1-4 *unit(s)*
- MDES 184 - Directed Reading 1-4 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- POLS 4 - Introduction to International Relations 3 *unit(s)* (D3)
- POLS 154 - U.S. Foreign Policy: Formulation and Administration 4 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S) (or other appropriate courses selected with approval of the minor advisor (including individual studies, directed reading, and/or up to 6 units of foreign language studies))

## Total Units Required (18-20 units)

## Religious Studies Minor

This minor offers a basic understanding of religious beliefs and practices for those whose careers would benefit from familiarity with some religious traditions, such as those in teaching, business, journalism, social work, medicine, and law. The minor incorporates the study of religious traditions with reflection on what religion is and how we understand it.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

- HUM 101 - Human Life: Let's Think About It 3 *unit(s)*
- Plus 12 additional units of which 6 must be upper division and 9 in RELS courses 12 *unit(s)*

## One Course from the Following Can Be Included:

- AFAM 137 - Religion in the Black Community 3 *unit(s)*
- ENGL 116 - Myth in Literature 4 *unit(s)*
- HIST 121A - Medieval Worlds, 400-1000 4 *unit(s)*
- HIST 121B - Medieval Worlds, 1000-1500 4 *unit(s)*
- HIST 122 - The Renaissance and Reformation 4 *unit(s)*

## Total Units Required (15 units)

### *AMS 1A - American Cultures to 1877*

6 *unit(s)*

American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources.

*Misc/Lab: Lecture 3 hours/lecture 3 hours*

*Satisfies C1 + C2: Arts and Letters*

**Grading:** Graded

**Note(s):** Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

### *AMS 1B - American Cultures 1877 to present*

6 *unit(s)*

American culture examined through political, literary, artistic, economic and social development. American values, ideas and institutions from popular culture as well as traditional sources.

*Misc/Lab: Lecture 3 hours/lecture 3 hours*

*Satisfies C2 + D3 + US123: Letters, Social Issues, and American Institutions*

**Prerequisite(s):** AMS 1A.

**Grading:** Graded

**Note(s):** Entire sequence satisfies GE Areas C1,2; D2,3; U.S. History, U.S. Constitution and California Government US1,2,3.

### *AMS 92 - Int'l Program Studies*

1-12 *unit(s)*

**Grading:** Mixed Grading

### *AMS 100W - Writing in the Humanities & Interdisciplinary Arts*

3 *unit(s)*

Advanced workshop in composition and reading for the critical and comparative study of the humanities and interdisciplinary arts. Students explore and practice the thinking and writing skills that help us communicate insight,

critique, interpretation, description, and analysis of arts, literature, history, and culture, including expository writing and library research. Readings and objects of study include a range of topics and at least two different art forms.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*AMS 129 - How the World sees the United States*

*3 unit(s)*

Comparative analysis of the cultural meaning of "America" outside the United States from the perspectives of global interdependence and transnationalism, and including both pro- and anti-American views through history.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*AMS 159 - Nature and World Cultures*

*3 unit(s)*

The influence of industrialization and globalization on earth and the environment as seen through culture.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A/LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*AMS 160 - Special Topics in Humanities*

*3 unit(s)*

Comparative studies of vital issues and enduring ideas (ethical, political, social, cross-cultural, etc.). Content varies each semester and with each instructor. Repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*AMS 169 - The American Dream*

*3 unit(s)*

The American search for identity and meaning, the struggle for equality and success, in relation to myths, illusions and realities reflected in history, literature and the arts.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*AMS 179 - American Popular Culture*

3 unit(s)

Music, sports, fashion, popular literature, television and other arts and activities that are main forms of influence, entertainment and escape. Expressions of American attitudes and ideas as important influences upon evolving culture and consciousness.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AMS 180 - Individual Studies*

1-4 unit(s)

Supervised study of a particular aspect of American culture not covered in a regular course offering.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*AMS 190 - Senior Seminar in Humanities*

3 unit(s)

Readings, discussions and individual research projects relating to an interdisciplinary theme selected by the instructor.

**Pre/Corequisite(s):** Upper Division Standing, Passage of WST. Any 100W class.

**Grading:** Graded

*AMS 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ASIA 70C - Arts of Asia*

3 unit(s)

Major trends in the art of China, India and Japan, as well as Southeast and Central Asia and Korea, from the Neolithic period to the twentieth century.

*Satisfies C1: Arts*

**Grading:** Graded

*ASIA 92 - Int'l Program Studies*



1-12 unit(s)

**Grading:** Graded

*ASIA 102 - Chinese Culture*

4 unit(s)

Traditional Chinese culture in light of contemporary values. Ideographs, folk tales, festivals, creeds and customs, myths and superstitions, opera and the arts, women, the art of living.

**Grading:** Graded

**Note(s):** Taught in English.

*ASIA 104 - Asian Philosophy*

3 unit(s)

Philosophical examination of Confucianism, Daoism, Buddhism and some other significant movements of thought originated in Asia. Comparison with Western philosophy.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASIA 109A - History of China*

4 unit(s)

Traditional society from earliest times to 1800.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*ASIA 109B - History of China*

4 unit(s)

China's revolutions and ongoing modernization.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*ASIA 110A - History of Japan*

4 unit(s)

Development of state and society from prehistoric times to 1750. Major topics include the controversy over the origins of the Japanese people; the adaptation of Chinese cultural, religious, and political models; the role of the emperor in state formation; the classical era of Japanese culture during the Heian period; the rise of the samurai elites; and the development of military rule under the shoguns.

**Prerequisite(s):** Upper division standing or consent of instructor.

**Grading:** Graded

*ASIA 110B - History of Japan*

*4 unit(s)*

Since 1750 emphasizing the process of modernization.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*ASIA 114 - Legacy of Asia*

*3 unit(s)*

Interdisciplinary focus on continuity and change in China and India as these ancient civilizations responded to challenges throughout their history.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASIA 115 - The Emerging Global Culture*

*3 unit(s)*

Introduction to systems concepts and approach as a way to investigate the global impacts of industrial technology on political, economic, social and moral/psychological structures of humankind.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASIA 122 - English as a World Language*

*3 unit(s)*

A survey of the ways and the purposes which English is used in diverse societies and cultures around the world, including the United States; implications for international and cross-cultural communication.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASIA 133B - Relationship Marketing: Pacific Rim*

3 unit(s)

Why not use PacRim marketing methods in PacRim markets? Americans tend to be short-term, sales-oriented. Asians tend to be relationship oriented. Why not master both marketing methods? Focus: Launching a "start-up". Topics: PacRim forms of product-launch, sales presentation, negotiation, promotion, PacRim risks.

**Prerequisite(s):** BUS2 130.

**Grading:** Graded

*ASIA 140 - Chinese Culture and Politics Through Literature*

3 unit(s)

Exploration of the interaction between culture, politics and literature as reflected in the contemporary (post-1949) narrative, poetry and drama of China, Taiwan and Hong Kong.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Taught in English.

*ASIA 142 - Contemporary Buddhism and its Roots*

3 unit(s)

Teachings of Gautama, the Buddha and ways in which those teachings were modified in forms of Buddhism that followed: Theravada in southeast Asia and Mahayana in east Asia.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ASIA 144 - Chinese Traditions*

3 unit(s)

Religious thought and practice of China's three Great Traditions (Buddhism, Taoism and Confucianism) as well as China's Little Tradition (Chinese folk religion). The role of these traditions within traditional Chinese culture and their relevance to the modern world, including China.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ASIA 145 - Asian Politics*

4 unit(s)

Study of unfolding events in Asia. Themes include: the Asian economic 'miracle,' the implications of China's rise for international security, nuclear proliferation and terrorism, and sustainability; specifically, energy, environment and

human rights.

**Grading:** Graded

*ASIA 148B - Improvisational Traditions of the World - Asia*

2 unit(s)

Selected topics in performance and social context of improvisational musics of Asia: gamelan and/or other selected genres. In-class and/or public performances.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

**Pre/Corequisite(s):** MUSC 2A and MUSC 2B or equivalent.

**Grading:** Graded

*ASIA 160 - East and South Asia*

3 unit(s)

Geography of Eastern, Southeastern, and Southern Asia. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities. Particular emphasis is given to comparing and analyzing the variable rates of economic progress across the region.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ASIA 177 - Anthropology of Asia*

3 unit(s)

Sociocultural themes of selected Asia cultures. Covers cultural pluralism, intercultural contact, social organization, worldview and economic adaptations. Explores connections within the Pacific Rim, especially to the local region. Course is repeatable once for credit when different cultures are emphasized.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ASIA 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ASIA 193B - East Meets West in Art*

3 unit(s)

Comparative study of Eastern and Western art. Emphasis on cross-fertilization. Historical and cultural backgrounds. Includes lectures, discussions and presentations. Research or art project and paper required.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASIA 194A - Art of China*

3 unit(s)

Architecture, sculpture and painting in China from prehistoric times to the Republic.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ASIA 195 - Art of Japan*

3 unit(s)

Architecture, sculpture and painting in Japan from prehistoric times to Edo era.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*CA 60 - Creativity Matters*

3 unit(s)

Study why creativity matters to you from imagining possible career paths to improving communication, expressing ideas, and flourishing over the course of one's lifetime. Creativity is not just for artists and inventors! It is a human faculty that matters for life.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*CA 70 - Visual & Media Arts for K-8 Teachers*

3 unit(s)

Introductory and interdisciplinary course in the Visual Arts and Media Arts designed for students interested in teaching in K-8 classrooms. Basic techniques and processes a prospective teacher needs in the Visual Arts and Media Arts to instruct students. Students actively engage in the art forms as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Introduction to Arts Education research, advocacy, and community arts resources.

**Grading:** Graded

*CA 75 - Performing Arts for K-8 Teachers*

3 unit(s)

Basic dance, theatre, and music techniques and processes a prospective teacher needs to create dance/movement, vocal and instrumental music, creative dramatics and formal theatre with K-8 students. Students actively engage in the three arts disciplines, as well as explore standards-based instructional strategies, classroom management strategies, and aesthetic inquiry. Students are introduced to Performing Arts Education research, advocacy, and community arts resources.

**Grading:** Graded

*CA 95 - Introduction to Queer Arts*

3 unit(s)

Exploration of the ways that LGBTQ individuals and groups have used the arts, in various times and places, to make their lives, communities, and selves meaningful and to resist the domination of non-queer cultures.

*Satisfies C1: Arts*

**Grading:** Graded

*CA 134 - Religion Film & Media*

3 unit(s)

Depictions of religion, religions, religious behavior, and religious propaganda in film and media. Exploring these from several perspectives, (e.g. emic and etic, cross-national, aesthetic) and examining the murky problem of "the truth" in the depiction of religious and spiritual experience.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*CA 139 - Teaching Diversity through Art*

3 unit(s)

Strategies for teaching ideas of diversity through art in the preschool through high school classroom. Students deepen their understanding of culture and context and of why the arts matter.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** upper-division standing or instructor consent

**Grading:** Graded

*CA 148 - Voice & Movement for Performance*

3 unit(s)

Explores the expressive, restorative and communicative nature of movement and voice as applied to human performance, the arts, therapy, education and management. Techniques focus on students developing their "natural voice" and exploring elements of physical expression by examining how the body can communicate story. Course content may change each semester and be tailored to be more advanced for those students repeating the course.

*Lecture 2 hours/lab 3 hours.*

*May be repeated 2 times for up to 6 units.*

**Corequisite(s):** TA 48 or upper division standing.

**Grading:** Graded

*CA 150 - Field Experience in the Arts*

3 unit(s)

Provides opportunities for those considering teaching, K-12 levels, to interact with outstanding teachers of the arts in the region through structured field experiences in classrooms, reflective writing, community service, and weekly discussion in a seminar setting.

**Prerequisite(s):** ART 138 or ART 139, upper division standing, or instructor consent.  
**Grading:** Graded

*CA 172 - The Arts in U.S. Society*

*3 unit(s)*

Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CA 173 - Thinking About Contemporary World Arts*

*3 unit(s)*

An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CA 174 - Special Topics Seminar*

*3 unit(s)*

In-depth study of historical and/or contemporary topics in the interdisciplinary creative arts. Content changes each semester. Course repeatable when content changes

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*CA 175 - Seminar in Creative Process*

*3 unit(s)*

An exploration of the creative process across the creative domains and of the use of practice-based research in the humanities and creativity studies.

**Prerequisite(s):** CA 60 or upper division standing

**Grading:** Graded

*CA 176 - Creativity and Creative Leadership*

*3 unit(s)*

A course focusing on mastering current theories about creativity, adapting theoretical knowledge for an individual/personal strategy, and embodying both the knowledge and strategy in a collaborative project.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*CA 177 - Interdisciplinary Arts for Teaching*

*3 unit(s)*

Creativity in teaching and learning—a course designed for prospective teachers; connections between the various arts disciplines, integrating other core subjects taught in California's classrooms.

**Grading:** Graded

*CA 178 - Senior Seminar in Creative Arts*

*3 unit(s)*

A capstone seminar in two sections. First, students present and facilitate discussion of a major book or topic in creative arts or, when appropriate, humanities. Second, students devote themselves to senior projects (a written thesis or work in other media).

**Prerequisite(s):** CA 172 or CA 173.

**Grading:** Graded

*CA 180 - Individual Studies*

*1-4 unit(s)*

Individual work on special topics, by arrangement.

**Prerequisite(s):** Coordinator approval.

**Grading:** Credit/No Credit

**Note(s):** ["Mixed Grading"].

*CA 190 - Field Work/Internship*

*1-3 unit(s)*

Pre-professional experience in arts management/program design/implementation in a public setting.

**Prerequisite(s):** Coordinator approval.

**Grading:** Credit/No Credit

*CA 192 - Int'l Program Studies*

*1-6 unit(s)*

*Course may be repeated for credit for up to 6 units.*



**Grading:** Mixed Grading

*CA 194 - Community Building through Arts Orgs*

*3 unit(s)*

In-depth study of strategies and methods for building community through creative arts organizations, both for-profit and non-profit.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*HUM 1A - Honors - World Cultures and Societies A*

*6 unit(s)*

Prehistory to the seventeenth century. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the ancient world.

*Misc/Lab: Lecture 3 hours/lecture 3 hours.*

*Satisfies C1 + C2: Arts and Letters*

**Prerequisite(s):** Application to program

**Grading:** Graded

**Note(s):** Entire four-semester sequence (HUM 1A/HUM 1B and HUM 2A/HUM 2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

*HUM 1B - Honors - World Cultures and Societies B*

*6 unit(s)*

Prehistory to the seventeenth century. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the ancient and medieval world.

*Misc/Lab: Lecture 3 hours/lecture 3 hours.*

*Satisfies A2 + D3: Written Communication IA + Social Issues*

**Prerequisite(s):** HUM 1A

**Grading:** Graded

**Note(s):** Entire four-semester sequence (HUM 1A/1B and 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

*HUM 2A - Honors - Modern World Cultures A*

*6 unit(s)*

Seventeenth century to the present. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the modern world.

*Misc/Lab: Lecture 3 hours/lecture 3 hours.*

*Satisfies A1 (C- or better) + D2: Oral Communication + Comparative Systems*

**Prerequisite(s):** HUM 1B

**Grading:** Graded

**Note(s):** Entire four-semester sequence (HUM 1A/HUM 1B and 2A/HUM 2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

*HUM 2B - Honors - Modern World Cultures B*

6 unit(s)

Seventeenth century to the present. Courses cover political, historical, social-institutional, philosophical, and literary thought and the arts of the modern and contemporary world.

*Misc/Lab: Lecture 3 hours/lecture 3 hours.*

*Satisfies A3 + C2 + US123: Critical Thinking + Letters + American Institutions*

**Prerequisite(s):** HUM 2A; Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

**Note(s):** Entire four-semester sequence (HUM 1A/HUM 1B and HUM 2A/2B) satisfies GE Areas A1, A2, A3 (C- or better required); C1, two C2; D2, D3; and all of American Institutions, US1, US2, US3.

*HUM 80 - Reading the World*

3 unit(s)

By studying the history, philosophy, and science of reading, we build a transdisciplinary, critical approach to the value of reading comparative, historical, and cross-cultural texts. Activities and writing assignments enable students to understand the logical construction of arguments to become reflexive participants in reading.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*HUM 90 - Bible History and Literature*

3 unit(s)

The Bible in context of its history, literary sources and as a reflection of Jewish and Christian traditions. Motifs and themes in light of their original audience, historic usage and contemporary development.

*Satisfies C2: Letters*

**Grading:** Graded

*HUM 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*HUM 99 - Death, Dying and Religions*

3 unit(s)

Is death the end or the beginning? Learn how people integrate the physical, emotional, psychological, and spiritual dimensions of living and dying. Examine religious teachings and practices for making death personally meaningful, socially significant, or even politically powerful.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*HUM 100W - Writing in the Humanities & Interdisciplinary Arts*

3 unit(s)

Advanced workshop in composition and reading for the critical and comparative study of the humanities and interdisciplinary arts. Students explore and practice the thinking and writing skills that help us communicate insight, critique, interpretation, description, and analysis of arts, literature, history, and culture, including expository writing and library research. Readings and objects of study include a range of topics and at least two different art forms.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*HUM 101 - Human Life: Let's Think About It*

3 unit(s)

Introduction to interdisciplinary comparative and creative studies. A range of methodologies will be explored through two contrasting subjects. Students learn and synthesize approaches - geography, history, literature, arts, and social science - to achieve a holistic understanding of the topics.

**Prerequisite(s):** Upper Division Standing.

**Grading:** Graded

*HUM 111 - Special Topics in Jewish Studies*

3 unit(s)

Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit under different subtitles. Repeatable for credit when topic changes.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*HUM 114 - Legacy of Asia*

3 unit(s)

Interdisciplinary focus on continuity and change in China and India as these ancient civilizations responded to challenges throughout their history.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 119 - Myths, Heroes, and Global Cultures*

3 unit(s)

This course examines cultural developments in Europe, Asia and Africa during the ancient era and middle ages, roughly 700 B.C.E. to 1400 C.E, and the roles of pivotal figures, both mythic and historical, whose actions and ideas created our understanding of the early world.

**Prerequisite(s):** Upper division standing or permission of instructor

**Grading:** Graded

*HUM 120 - Renaissance, Reason and Romanticism*

3 unit(s)

This course will examine the cultural, artistic, philosophical, and political developments in the Western world and certain aspects of world cultures during the Renaissance, Enlightenment and Romantic eras, approximately 1400 through 1850.

**Prerequisite(s):** Upper division standing or permission of instructor

**Grading:** Graded

*HUM 121 - Introduction to Comparative Literature*

4 unit(s)

Critical approaches, reference sources, problems of translation.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*HUM 122 - Topics in Comparative World Literature*

4 unit(s)

An exemplary theme as treated in various literatures in different languages, e.g., war, love, freedom, religious experience. May be repeated when course content changes.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*HUM 124 - Literature and Religious Experience*

3 unit(s)

How authors and poets represent spiritual ideals and human dilemmas in a variety of literary genres such as the epic, the novel, the essay, love poetry and the haiku; and writers such as Plato, Emerson, Emily Dickinson, Thomas Merton, Shakespeare, Basho, Hanshan, Rumi and Sufi poets, Kabir, Indian Virashaiva poets, and authors of The Book of Odes and The Mahabharata. Course is repeatable as readings and themes change.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 126 - Holocaust Literature*

*3 unit(s)*

Survey of literature written by survivors or witnesses of the Holocaust, the destruction of European Jewry during World War II, focusing upon diaries, memoirs, fiction, and occasionally poetry and drama. Writers may include Elie Wiesel, Primo Levi, Anne Frank, Charlotte Delbo.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context*

*3 unit(s)*

Literature and the arts of selected world cultures contextualized in significant events and concepts of the twentieth century, such as two world wars, totalitarian systems, the revolt against colonial powers, modernity and postmodernity, and the global challenge to western hegemony.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 134 - Religion Film & Media*

*3 unit(s)*

Depictions of religion, religions, religious behavior, and religious propaganda in film and media. Exploring these from several perspectives, (e.g. emic and etic, cross-national, aesthetic) and examining the murky problem of "the truth" in the depiction of religious and spiritual experience.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 141 - Medieval Literature*

*4 unit(s)*

Middle English and continental literature, including such forms as the lyric, allegory, narrative, romance and biblically-based drama.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*HUM 142 - Contemporary Buddhism and its Roots*

3 unit(s)

Teachings of Gautama, the Buddha and ways in which those teachings were modified in forms of Buddhism that followed: Theravada in southeast Asia and Mahayana in east Asia.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 144 - Chinese Traditions*

3 unit(s)

Religious thought and practice of China's three Great Traditions (Buddhism, Taoism and Confucianism) as well as China's Little Tradition (Chinese folk religion). The role of these traditions within traditional Chinese culture and their relevance to the modern world, including China.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 148 - Children's Dance*

3 unit(s)

Study of dance for children as personal expression through movement. Use of creative dance as a tool for the enrichment of learning. Experiencing dance in a variety of cultures.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*HUM 155 - Pagan Traditions*

3 unit(s)

Thematic and historical examination of localized religious traditions; e.g., Shamanic, Animistic, Polytheistic, Pantheistic. These traditions will be studied through their arts, music, myths, life patterns, cosmologies and contact between indigenous and universalizing religions.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 159 - Nature and World Cultures*

3 unit(s)

The influence of industrialization and globalization on earth and the environment as seen through culture.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 160 - Special Topics in Humanities*

3 unit(s)

Comparative studies of vital issues and enduring ideas (ethical, political, social, cross-cultural, etc.). Content varies each semester and with each instructor. Repeatable for up to 9 units of credit when course topic changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*HUM 168A - Global Climate Change I*

6 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 168B - Global Climate Change II*

3 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

*Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding*

**Prerequisite(s):** COMM 168A / ENVS 168A / GEOL 168A / HUM 168A / METR 168A; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 169 - The American Dream*

3 unit(s)

The American search for identity and meaning, the struggle for equality and success, in relation to myths, illusions and realities reflected in history, literature and the arts.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 177A - Advanced Honors in Integrated Science, Social Science, and Humanities*

6 unit(s)

SJSU Studies Honors cultivates scientific study of the physical universe and life forms, explores individuals and groups in the USA regarding diversity, equality, and institutional inequalities and practices, and develops appreciation for human cultures and their diverse development globally over time.

Lecture 3 hours/Seminar 3 hours

Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding with completion of HUM 177A/HUM 177B sequence (C or better).

**Prerequisite(s):** All-college GPA of 3.0 or higher AND one of the following: WST score of 7 or higher, or completion of the WST Directed Self Placement online exercise.

**Pre/Corequisite(s):** 100W pre- or corequisite strongly recommended.

**Grading:** Graded

*HUM 177B - Advanced Honors in Integrated Science, Social Science, and Humanities*

3 unit(s)

SJSU Studies Honors cultivates scientific study of the physical universe and life form, explores individuals and groups in the USA regarding diversity, equality, and institutional inequalities and practices, and develops appreciation for human cultures and their diverse development globally over time.

Lecture 1.5 hours/Lecture 1.5 hours

Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding with completion of HUM 177A/HUM 177B sequence (C or better).

**Prerequisite(s):** Completion of HUM 177A with C or better.

**Grading:** Graded

*HUM 179 - American Popular Culture*

3 unit(s)

Music, sports, fashion, popular literature, television and other arts and activities that are main forms of influence, entertainment and escape. Expressions of American attitudes and ideas as important influences upon evolving culture and consciousness.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*HUM 180 - Individual Studies*



1-3 unit(s)

Directed reading and thesis by arrangement.

**Prerequisite(s):** Department chair consent.

**Grading:** Credit/No Credit

*HUM 183C - Art of Islam 13th-19th Century*

3 unit(s)

This course will focus on the varied Islamic art and architecture from the 13th century to the 19th century; from Mongols through the Ottomans.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HUM 190 - Senior Seminar in Humanities*

3 unit(s)

Readings, discussions and individual research projects relating to an interdisciplinary theme selected by the instructor.

**Pre/Corequisite(s):** Upper Division Standing, Passage of WST. Any 100W class.

**Grading:** Graded

*HUM 191 - Religion in America*

3 unit(s)

History of social and intellectual influence of religious groups, stressing their African-, Asian-, European-, Latin- and Native-American roots. Highlights contact between groups, immigration, religious diversity and syncretism.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HUM 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*LSTP 10 - Chronicles of Education*

3 unit(s)

This course uses chronicles, or narratives, to expand traditional views about the sites where education takes place and to articulate the educational forces that shape individuals and societies.

*Satisfies C2: Letters*

**Grading:** Graded

*LSTP 85A - Fieldwork in Humanities A*

*1 unit(s)*

Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85A combines readings and field experience to familiarize students with the duties and responsibilities that elementary teaching entails. Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

**Grading:** Graded

*LSTP 85B - Fieldwork in Humanities B*

*1 unit(s)*

Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85B provides a dual focus on diversity in the classroom and the development of a teaching philosophy. Readings and field experience familiarize students with the various manifestations of diversity (cultural, linguistic, ability) in the classroom and prepare students to create a teaching philosophy that is responsive to the realities of today's diverse classrooms. Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

**Grading:** Graded

*LSTP 85C - Fieldwork in Humanities C*

*1 unit(s)*

Part of a 3-course series (HUM 85A, B, C) that provides prospective K-8 teachers to California's public school classrooms with initial exposure to the elementary classroom setting. HUM 85C focuses on ethnography as a means of gaining a deeper understanding of classroom observations and classroom dynamics. It combines readings on conducting classroom ethnographies with field experience to produce "Ethnographic Snapshots". Coursework involves 10 hours of volunteering in a public-school classroom with a credentialed teacher and online assignments.

**Grading:** Graded

*LSTP 139 - Education and (In)Equality*

*3 unit(s)*

Education and (In)Equality explores the ways in which education cultivates free and empowered individuals that shape democratic egalitarian societies. It also explores the ways education can be used to oppress, dominate, and perpetuate social, economic and political inequalities. SJSU Studies Area: S

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Grading:** Graded

*LSTP 185 - Field Experience in Humanities*

*3 unit(s)*

Supervised field work for liberal studies and humanities majors. Includes weekly meetings to discuss readings and field work experiences and to reflect upon humanities education, multicultural school settings and other nonprofit

agencies and organizations that promote the humanities.

*Misc/Lab: Lecture 3 hours/lecture 3 hours.*

**Prerequisite(s):** HUM 85.

**Grading:** Credit/No Credit

*MDES 90 - Bible History and Literature*

*3 unit(s)*

The Bible in context of its history, literary sources and as a reflection of Jewish and Christian traditions. Motifs and themes in light of their original audience, historic usage and contemporary development.

*Satisfies C2: Letters*

**Grading:** Graded

*MDES 144 - Middle Eastern Politics*

*4 unit(s)*

Study of unfolding events in the Middle East. Themes include: the failure of democratic movements, nuclear proliferation and terrorism, US foreign policy towards the region, the Israel-Palestine conflict, urbanization, gender and human rights.

**Grading:** Graded

*MDES 145 - Middle Eastern Traditions*

*3 unit(s)*

Introduction to the peoples and cultures of the Middle East through exploration of the cooperation, competition, conflict and dialogues between the ethnic, national, and religious communities of contemporary Middle Eastern countries.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MDES 156 - Islam, Politics and the West*

*3 unit(s)*

An in-depth look at the roots of Islamic tradition, law, politics, culture, and society. Emphasis on Islam's growing global prominence; relations with the West; stereotypes and misconception, as well as the nature of the Islamic state.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MDES 180 - Individual Studies*

1-4 unit(s)

A project.

**Prerequisite(s):** Religious studies upper division major or minor and coordinator consent.

**Grading:** Credit/No Credit

*MDES 183A - Art of Egypt and Mesopotamia*

3 unit(s)

The Arts of Egypt, Sumer, Akkad, Babylonia, Assyria, Anatolia, Hittites, and Persia (Elamite to Sassanian).

**Prerequisite(s):** ARTH 70A or instructor consent.

**Grading:** Graded

*MDES 183B - Art of Islam-Early Islam to the Seljuks*

3 unit(s)

Focus on the varied Islamic art and architecture from the 7th century to the 13th century, early Islamic period through the Seljuks.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MDES 183C - Art of Islam 13th-19th Century*

3 unit(s)

This course will focus on the varied Islamic art and architecture from the 13th century to the 19th century; from Mongols through the Ottomans.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MDES 184 - Directed Reading*

1-4 unit(s)

**Prerequisite(s):** Religious studies upper division major or minor and coordinator consent.

**Grading:** Credit/No Credit

*MDES 189 - Islamic Perspectives on Gender*

3 unit(s)

Contemporary feminist theories analyze premises of gender roles in Islamic cultures and variety of sexual expressions. This class will sensitize students to the diversity of Islamic cultures and communities, in addition to geographical, political, and social locations, like ethnicity and class affect the gender debate in Islamic perspectives.

**Prerequisite(s):** Upper division standing or Instructor Consent.

**Grading:** Graded

**Note(s):** Required for topical major and minor in Women's Studies.

*MDES 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*RELS 70 - Gods, Guns, Gurus, Grails-World Religion*

3 unit(s)

Survey of major world religions, east and west, past and present. Structure and patterns of faith manifest in sacred texts, institutions, rituals, central figures and movements.

*Satisfies C2: Letters*

**Grading:** Graded

*RELS 90 - Bible History and Literature*

3 unit(s)

The Bible in context of its history, literary sources and as a reflection of Jewish and Christian traditions. Motifs and themes in light of their original audience, historic usage and contemporary development.

*Satisfies C2: Letters*

**Grading:** Graded

*RELS 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*RELS 99 - Death, Dying and Religions*

3 unit(s)

Is death the end or the beginning? Learn how people integrate the physical, emotional, psychological, and spiritual dimensions of living and dying. Examine religious teachings and practices for making death personally meaningful, socially significant, or even politically powerful.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*RELS 100W - Writing in the Humanities & Interdisciplinary Arts*

3 unit(s)

Advanced workshop in composition and reading for the critical and comparative study of the humanities and interdisciplinary arts. Students explore and practice the thinking and writing skills that help us communicate insight, critique, interpretation, description, and analysis of arts, literature, history, and culture, including expository writing and library research. Readings and objects of study include a range of topics and at least two different art forms.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*RELS 104 - Asian Philosophy*

3 unit(s)

Philosophical examination of Confucianism, Daoism, Buddhism and some other significant movements of thought originated in Asia. Comparison with Western philosophy.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RELS 109 - Philosophy of Religion*

3 unit(s)

Philosophical issues regarding the existence of a supreme being, evil, mysticism, miracles, reincarnation, faith, the possibility of enlightenment, and the connection between religion and morality.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*RELS 111 - Special Topics in Jewish Studies*

3 unit(s)

Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit under different subtitles. Repeatable for credit when topic changes.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*RELS 114 - Legacy of Asia*

3 unit(s)

Interdisciplinary focus on continuity and change in China and India as these ancient civilizations responded to challenges throughout their history.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RELS 120 - Censors and Icons: Arts and Religion*

3 unit(s)

Study of interactions between arts and world religions, using paradigmatic examples (e.g. Eastern Orthodox icons, Muslim architecture, Zen Buddhist calligraphy, Hindu Vedic chant, Biblical poetry) and contemporary developments (e.g. Evangelical Christian films, New Age music, religious themes in literature).

**Grading:** Graded

*RELS 122 - Magic, Science and Religion*

3 unit(s)

Exploring the ways in which people have attempted to gain mastery over the natural and supernatural worlds beginning with prehistoric times and concluding with modern day society and the contemporary world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RELS 131 - Gender, Sexuality, and Religion*

3 unit(s)

Women's roles and gendered categories within diverse religions. Feminist critiques, reforms, and creations of religious institutions. The political and feminist dimensions of women's religious experience. Understanding the roles of sexuality in religion.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 134 - Religion Film & Media*

3 unit(s)

Depictions of religion, religions, religious behavior, and religious propaganda in film and media. Exploring these from several perspectives, (e.g. emic and etic, cross-national, aesthetic) and examining the murky problem of "the truth" in the depiction of religious and spiritual experience.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 137 - Religion in the Black Community*

3 unit(s)

Analysis of formation and development of African-American religious ideas and institutions (i.e., Christianity, Islam, Judaism) in the Black community and their effect on the African American personality.

**Grading:** Graded

*RELS 142 - Contemporary Buddhism and its Roots*

3 unit(s)

Teachings of Gautama, the Buddha and ways in which those teachings were modified in forms of Buddhism that followed: Theravada in southeast Asia and Mahayana in east Asia.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 144 - Chinese Traditions*

3 unit(s)

Religious thought and practice of China's three Great Traditions (Buddhism, Taoism and Confucianism) as well as China's Little Tradition (Chinese folk religion). The role of these traditions within traditional Chinese culture and their relevance to the modern world, including China.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 145 - Middle Eastern Traditions*

3 unit(s)

Introduction to the peoples and cultures of the Middle East through exploration of the cooperation, competition, conflict and dialogues between the ethnic, national, and religious communities of contemporary Middle Eastern countries.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RELS 148 - Religion and Anthropology*

3 unit(s)

Comparative anthropological study of religious systems and world views; Anthropological theories concerning origin and evolution of religion; structure and function of ritual and myth; types of religious specialists.

**Prerequisite(s):** ANTH 11, ANTH 25 or instructor consent.

**Grading:** Graded

*RELS 155 - Pagan Traditions*

3 unit(s)

Thematic and historical examination of localized religious traditions; e.g., Shamanic, Animistic, Polytheistic, Pantheistic. These traditions will be studied through their arts, music, myths, life patterns, cosmologies and contact between indigenous and universalizing religions.



**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 156 - Islam, Politics and the West*

3 unit(s)

An in-depth look at the roots of Islamic tradition, law, politics, culture, and society. Emphasis on Islam's growing global prominence; relations with the West; stereotypes and misconception, as well as the nature of the Islamic state.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 161 - Varieties of Spiritual Experience*

3 unit(s)

Comparative analysis of mystical experience, emphasizing the writings and creative works of the mystics themselves. Perspectives include comparative religions, theology, psychology, anthropology, philosophy, music and literature. Focus on ultimate transformation of self and the world.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*RELS 162 - Religion and Political Controversy in the US*

3 unit(s)

Contemporary problems (e.g., ecology, abortion, war, gender, sexuality and race) as interpreted by a diverse range of American ethno-religious groups. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

*RELS 180 - Individual Studies*

1-4 unit(s)

A project.

**Prerequisite(s):** Religious studies upper division major or minor and coordinator consent.

**Grading:** Credit/No Credit

*RELS 184 - Directed Reading*

1-4 unit(s)

**Prerequisite(s):** Religious studies upper division major or minor and coordinator consent.

**Grading:** Credit/No Credit

*RELS 190 - Senior Seminar in Humanities*

3 unit(s)

Readings, discussions and individual research projects relating to an interdisciplinary theme selected by the instructor.

**Pre/Corequisite(s):** Upper Division Standing, Passage of WST. Any 100W class.

**Grading:** Graded

*RELS 191 - Religion in America*

3 unit(s)

History of social and intellectual influence of religious groups, stressing their African-, Asian-, European-, Latin- and Native-American roots. Highlights contact between groups, immigration, religious diversity and syncretism.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*RELS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

## Department of Linguistics and Language Development

**Office:** Clark Hall 473

**Telephone:** 408-924-4413

**Email:** linguistics@sjsu.edu

**Website:** www.sjsu.edu/linguistics

### Professors

Swathi Vanniarajan

### Associate Professors

Stefan Frazier, Chair

Hahn Koo

Scott Phillabaum

### Assistant Professors

David Malinowski

Julia Swan

# Overview

Linguistics, the scientific study of human language, explores what language is, how it works and which features human languages have in common. Our curriculum focuses on understanding how the languages of the world work and on addressing the English language needs of our culturally diverse society. Students in the Department of Linguistics and Language Development (LLD) are part of an ethnically and linguistically diverse student body, taught by nationally and internationally recognized faculty. We offer graduate and undergraduate degrees in linguistics, a certificate in computational linguistics, a master's degree in TESOL (Teaching English to Speakers of Other Languages), and undergraduate and graduate certificates in TESOL. Our research infrastructure includes a state-of-the-art computer lab, a phonology lab, and access to computerized language data. Approximately 25% of our students come from other countries and contribute greatly to our programs.

## Undergraduate

### Linguistics, BA

The BA-Linguistics program, offered by the Department of Linguistics and Language Development, undertakes the scientific study of the nature, structure and function of language. Linguists study the origins of language, the meaning and history of words, variation in language, what language tells us about the workings of the human mind, and the practical aspects of language, including intercultural communication, language learning and teaching, and language as a conveyor of information in profound human arenas, such as medicine and law. Linguistics is also a central discipline that is involved in communicating with machines using natural language (i.e., artificial intelligence and machine recognition and synthesis of speech). The program offers state-of-the-art equipment for the acoustic and perceptual study of speech. Students in the major acquire critical thinking and problem-solving skills and receive excellent preparation for advanced studies in linguistics as well as anthropology, communication, education, law, and speech and hearing. Students with knowledge of more than one language have an excellent background for the study of linguistics.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	50
Major Preparation	0-10
Major Requirements	36
University Electives	24-34
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (50 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- LLD 100W - Writing Workshop 3 *unit(s)* (*The department recommends*)

## Major Preparation (0-10 units)

### **Must Meet One Of The Following Criteria:**

*For students for whom English is not the native language, one year of college level English study may fulfill this requirement.*

- One year of college level language other than student's native language 10 *unit(s)*
- Demonstrated equivalent competence 0 *unit(s)*
- One year of college level American Sign Language 6 *unit(s)*

## Major Requirements (36 units)

*GE Basic Skills requirements must be completed prior to taking courses in the major.*

## Core Courses (21 units)

- LING 101 - Introduction to Linguistics 3 *unit(s)*
- LING 111 - Introduction to Linguistic Phonetics 3 *unit(s)*
- LING 112 - Introduction to Syntax 3 *unit(s)*
- LING 113 - Introduction to Phonology 3 *unit(s)*
- LING 114 - Introduction to Semantics and Discourse 3 *unit(s)*
- LING 125 - Introduction to Historical and Comparative Linguistics 3 *unit(s)*
- LING 162 - Introduction to Morphology 3 *unit(s)*

## Electives in the Major (15 units)

*By a careful selection of five additional electives in the major (below), students can choose coursework toward completion of a Certificate in Computational Linguistics or a Certificate in TESOL. Elective courses (up to 3 units) from other departments such as World Languages and Literatures, English, Communication Studies, Computer Science, Psychology, Philosophy, Anthropology and Communicative Disorders can also be taken with prior advisor approval.*

Complete five courses from:

- LING 107 - Patterns of English 3 *unit(s)*
- LING 108 - Introduction to Second Language Development, Teaching, and Assessment 3 *unit(s)*
- LING 115 - Corpus Linguistics 3 *unit(s)*
- LING 122 - English as a World Language 3 *unit(s)* (V)
- LING 124 - Introduction to Speech Technology 3 *unit(s)*
- LING 161 - Psycholinguistics 3 *unit(s)*
- LING 165 - Introduction to Natural Language Processing 3 *unit(s)*
- LING 166 - Sociolinguistics 3 *unit(s)*
- LING 167 - Multilingualism and Language Contact 3 *unit(s)*

## University Electives (24-34 units)

*Upper Division electives may be required if 40 units are not taken as part of program.*

## Total Units Required (120 units)

## Master

### Linguistics, MA

Linguistics, the scientific study of human language, explores what language is, how it works, and which properties human languages have in common. Our curriculum focuses on understanding how different aspects of language work and on how the languages of the world work and on how this understanding can be applied to support our culturally diverse society. Students in the Department of Linguistics and Language Development (LLD) are part of an ethnically and linguistically diverse student body, taught by nationally and internationally recognized faculty. Our research infrastructure includes a state-of-the-art computer lab, a phonology lab, and access to computerized language data. Approximately 25% of our students come from other countries and contribute greatly to our programs.

The MA Linguistics program provides students with an interdisciplinary education in the scientific study of language. Courses in general linguistics develop the ability to analyze data, to propose and refine theories about how language works. Elective courses in computational linguistics serve students interested in speech technology and natural language processing. Other electives in sociolinguistics, multilingualism, and applied linguistics emphasize the role of language in society, including in education, and language variation and change. Graduates in linguistics offer a set of highly specialized skills to IT companies and to organizations whose work places a premium on communication with linguistically diverse audiences. Many graduates pursue careers with companies specializing in these areas. Other graduates pursue teaching careers in language and linguistics in domestic and overseas institutions. A smaller but significant number of linguistics graduates enter PhD programs for more advanced study.

Requirements for the MA Linguistics include those established by the department. For information concerning university requirements, see the Academic Requirements section.

## Requirements for Admission to Conditionally Classified Standing

Students holding an accredited baccalaureate degree and who otherwise satisfy the graduate level admissions requirements of San José State University (in the case of students with baccalaureate degrees from a university where English is not the principal language of instruction the minimum score of 577, computer score of 233, or Internet-based score of 90 on the TOEFL or 7.0 on IELTS) are eligible for admission as conditionally classified students. Students must have a grade point average of at least 3.0 in the last 60 semester (90 quarter) units.

## Requirements for Admission to Classified Standing

In addition to the above requirements for conditionally classified standing, students in the MA Linguistics program are eligible for admission as classified graduate students if they have completed at least twelve semester units of linguistics courses equivalent to San José State University's LING 101 - Introduction to Linguistics, LING 111 - Introduction to Linguistic Phonetics, LING 112 - Introduction to Syntax, and LING 114 - Introduction to Semantics and Discourse with a grade of "B" or better in each of these classes.

Students admitted as conditionally classified may complete the requirements for classified standing after admission to the program; however, a "B" grade must be achieved in all prerequisite courses. Additionally, the granting of classified standing is subject to the coordinator's review of the conditionally classified student's work.

## Advancement to Candidacy

The requirements for advancement to candidacy for the MA Linguistics are those established by the university and the department. For information see the Graduate Policies and Procedures section of this catalog.

## Graduation Requirements

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). In the MA Linguistics, this is satisfied with the core course LLD 250W - Becoming a Professional in Linguistics/TESOL. For more information on the GWAR, please see Graduation Writing Assessment Requirement (GWAR) section.

### Culminating Experience

Students have the option of completing the MA - Linguistics under one of two plans:

#### Plan A (Thesis)

Completion of 30 units; approved thesis proposal and thesis. The thesis option allows a student to pursue research in an area of common interest to the student and a faculty member. A thesis proposal may grow out of a course or be developed in LING 298 - Individual Studies, and must be approved by the student's advisor and thesis committee members. For more information, visit the Thesis and Dissertation Information website.

### **Plan B (Comprehensive Exam)**

Completion of 30 units; passing of a comprehensive examination.

## **Master's Requirements (30 units)**

### **Core Courses (18 units)**

- LING 113 - Introduction to Phonology *3 unit(s)*
- LING 201 - Phonology: Theory and Applications *3 unit(s)*
- LING 202A - Syntactic Theory *3 unit(s)*
- LING 203 - Semantic Structures *3 unit(s)*
- LING 213 - Linguistic Field Methods *3 unit(s)*
- LLD 250W - Becoming a Professional in Linguistics/TESOL *3 unit(s) (GWAR)*

### **Culminating Experience (12 units)**

#### **Complete One Option (Plan A or Plan B)**

#### **Plan A (Thesis) (12 units)**

- LING 299 - Master's Thesis or Project *1-6 unit(s) (1-3 units required)*
- Two Electives *6 unit(s)*

#### **Plan B (Comprehensive Exam) (12 units)**

- Four electives *12 unit(s)*
- Comprehensive Exam *0 unit(s)*

### **Elective Courses (6-12 units)**

Elective courses must be planned in consultation with the Graduate Advisor. At least 3 elective units must be at the 200-level.

Complete two electives (6 units) if completing Culminating Experience Plan A and four electives (12 units) if completing Culminating Experience Plan B:

- LING 115 - Corpus Linguistics *3 unit(s)*
- LING 124 - Introduction to Speech Technology *3 unit(s)*
- LING 125 - Introduction to Historical and Comparative Linguistics *3 unit(s)*
- LING 161 - Psycholinguistics *3 unit(s)*
- LING 162 - Introduction to Morphology *3 unit(s)*
- LING 165 - Introduction to Natural Language Processing *3 unit(s)*



- LING 166 - Sociolinguistics 3 *unit(s)*
- LING 167 - Multilingualism and Language Contact 3 *unit(s)*
- LING 298 - Individual Studies 1-4 *unit(s)*
- LING 299 - Master's Thesis or Project 1-6 *unit(s)*
- LLD 270 - Second Language Acquisition 3 *unit(s)*
- LLD 271 - Intercultural Communication and Second Language Acquisition 3 *unit(s)*

## Total Units Required (30 units)

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Teaching English to Speakers of Other Languages (TESOL), MA

- Requirements for Admission to Conditionally Classified Standing
- Requirements for Admission to Classified Standing
- Advancement to Candidacy
- Graduation Requirements
- Masters Requirements (30 units)

The MA TESOL prepares students to assess and systematically build the listening, speaking, reading and writing skills of students from other language backgrounds who wish to learn English or to improve their skills in English. The Department of Linguistics and Language Development (LLD) strikes a balance between theory and practice. Students in the department are part of an ethnically and linguistically diverse student body, taught by nationally and internationally recognized faculty. Graduates from the MA TESOL program staff many of the area's English as a Second Language programs at the university, community college, adult school, and private program level. In addition, a number of TESOL graduates have chosen careers in international settings, teaching English as a Foreign Language in universities, schools, and companies in Asia, Latin America, Europe, and other regions. MA TESOL graduates are also eligible to teach abroad through the U.S. government sponsored Fulbright and English Teaching Fellow programs. Any undergraduate major is appropriate preparation for this degree. (Note that the department does not have a credentialing program.)

Requirements for the MA TESOL include those established by the department. For information concerning university requirements, see the Academic Requirements section of this catalog.

## Requirements for Admission to Conditionally Classified Standing

Students holding an accredited baccalaureate degree and who otherwise satisfy the graduate level admissions requirements of San José State University (in the case of students with baccalaureate degrees from a university where English is not the principal language of instruction the minimum score of 577, computer score of 233, or Internet based score of 90 on the TOEFL or 7.0 on IELTS) are eligible for admission as conditionally classified students. Students must have a grade point average of at least 3.0 in the last 60 semester (90 quarter) units.

# Requirements for Admission to Classified Standing

In addition to the above requirements for conditionally classified standing, students in the MA TESOL program are eligible for admission as classified graduate students if they have completed two prerequisites, equivalent to LING 101 - Introduction to Linguistics and LING 107 - Patterns of English, which must each be completed with a grade of "B" or better.

Students admitted as conditionally classified may complete the requirements for classified standing after admission to the program; however, a "B" grade must be achieved in all prerequisite courses. Additionally, the granting of classified standing is subject to the coordinator's review of the conditionally classified student's work.

## Advancement to Candidacy

The requirements for advancement to candidacy for the MA TESOL are those established by the university and the department. For information see the Graduate Policies and Procedures section of this catalog.

## Graduation Requirements

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). In the MA TESOL, this is satisfied with the core course LLD 250W - Becoming a Professional in Linguistics/TESOL. For more information on the GWAR, please see Graduation Writing Assessment Requirement (GWAR) section.

### Culminating Experience

#### Plan A (with Thesis)

Completion of 30 units; approved thesis proposal and thesis. The thesis option allows a student to pursue research in an area of common interest to the student and a faculty member. A thesis proposal may grow out of a course or be developed in LLD 298 - Individual Studies, and must be approved by the student's advisor and thesis committee members. For more information, visit the Thesis and Dissertation Information website.

#### Plan B (without Thesis)

Students are required to complete a total of 30 units (27 required; 3 electives); in addition, students must pass a comprehensive examination.

## Masters Requirements (30 units)

### Core Courses (27 units)

- LLD 250W - Becoming a Professional in Linguistics/TESOL 3 *unit(s)* (GWAR)
- LLD 260 - English Structures for Teaching I 3 *unit(s)*
- LLD 261 - English Structures for Teaching II 3 *unit(s)*
- LLD 270 - Second Language Acquisition 3 *unit(s)*
- LLD 271 - Intercultural Communication and Second Language Acquisition 3 *unit(s)*
- LLD 280 - Methods and Materials for Teaching English to Speakers of Other Languages 3 *unit(s)*
- LLD 282 - Practicum in Teaching English to Speakers of Other Languages 3 *unit(s)*
- LLD 283 - Curriculum and Assessment in TESOL 3 *unit(s)*
- LLD 293 - Teaching College-level Reading and Writing 3 *unit(s)*

### Additional Courses (3 units)

#### Plan A (with Thesis) (3 units)

- LLD 299 - Master's Thesis or Project 1-6 *unit(s)* (3 *units required*)

#### Plan B (without Thesis) (3 units)

- One Elective 3 *unit(s)*
- Comprehensive Exam 0 *unit(s)*

### Elective Course (0-3 units)

- LING 111 - Introduction to Linguistic Phonetics 3 *unit(s)*
- LING 112 - Introduction to Syntax 3 *unit(s)*
- LING 113 - Introduction to Phonology 3 *unit(s)*
- LING 114 - Introduction to Semantics and Discourse 3 *unit(s)*
- LING 125 - Introduction to Historical and Comparative Linguistics 3 *unit(s)*
- LING 161 - Psycholinguistics 3 *unit(s)*
- LING 162 - Introduction to Morphology 3 *unit(s)*
- LING 166 - Sociolinguistics 3 *unit(s)*
- LING 201 - Phonology: Theory and Applications 3 *unit(s)*
- LING 202A - Syntactic Theory 3 *unit(s)*
- LING 203 - Semantic Structures 3 *unit(s)*
- LING 213 - Linguistic Field Methods 3 *unit(s)*
- Courses from other departments may be used as electives, with graduate advisor approval.

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Computational Linguistics Certificate (Graduate)

The Certificate in Computational Linguistics is an 18 unit program that provides a basic education and a certain amount of practical training in the interdisciplinary field of computational linguistics. It was designed to meet the needs of individuals who desire formal course preparation as language analysts in the environment of human language interfaces in software development. Please contact the computational linguistics coordinator for advising before beginning this certificate.

To receive the Certificate in Computational Linguistics, students must complete the following 18 units of course work and fulfill the programming requirement:

#### Certificate Requirements (18 units)

- LING 101 - Introduction to Linguistics 3 *unit(s)*
- LING 115 - Corpus Linguistics 3 *unit(s)*
- LING 124 - Introduction to Speech Technology 3 *unit(s)*
- LING 165 - Introduction to Natural Language Processing 3 *unit(s)*

#### Electives (6 units)

- CS 123A - Bioinformatics I 3 *unit(s)*
- CS 123B - Bioinformatics II 3 *unit(s)*
- CS 154 - Formal Languages and Computability 3 *unit(s)*
- CS 156 - Introduction to Artificial Intelligence 3 *unit(s)*
- LING 111 - Introduction to Linguistic Phonetics 3 *unit(s)*
- LING 112 - Introduction to Syntax 3 *unit(s)*
- LING 113 - Introduction to Phonology 3 *unit(s)*
- LING 161 - Psycholinguistics 3 *unit(s)*
- LING 166 - Sociolinguistics 3 *unit(s)*
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 161A - Applied Probability and Statistics I 3 *unit(s)*
- MATH 161B - Applied Probability and Statistics II 3 *unit(s)*
- MATH 162 - Statistics for Bioinformatics 3 *unit(s)*
- MATH 163 - Probability Theory 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- STAT 115 - Intermediate Statistics 3 *unit(s)*

#### Total Units Required (18 units)

**Programming Requirement:** Demonstrated competence with a programming language such as Java, C/C++, and Python. This requirement is to be satisfied by the time you complete the certificate program rather than before you

begin the program. Students typically fulfill the requirement by submitting a final project in a course (e.g. LING 165) that involves a substantial amount of coding.

Any *matriculated upper division undergraduate or graduate student* may pursue this certificate. *Non-matriculated students* may take the courses through Open University. Students must maintain a 3.0 average in these courses to be awarded the certificate.

**Prerequisites for Courses:** CS and MATH courses above have prerequisites of their own, so the total number of units you must take for the certificate may vary depending on your choice of electives and your academic background.

## Graduate TESOL Certificate (Graduate)

The certificate is designed to meet the needs of individuals desiring formal course preparation and training as classroom teachers of English to speakers of other languages but not requiring an MA degree. While the certificate is approved by the university, it does not provide certification, accreditation, or credentialing approved by the Commission on Teacher Credentialing. Students must maintain a 3.0 average in these courses to be awarded the certificate.

### Certificate Requirements (18 units)

#### Core Courses (18 units)

- LING 101 - Introduction to Linguistics 3 *unit(s)*
- LING 107 - Patterns of English 3 *unit(s)*
- LLD 270 - Second Language Acquisition 3 *unit(s)*
- LLD 271 - Intercultural Communication and Second Language Acquisition 3 *unit(s)*
- LLD 280 - Methods and Materials for Teaching English to Speakers of Other Languages 3 *unit(s)*
- LLD 283 - Curriculum and Assessment in TESOL 3 *unit(s)*

### Total Units Required (18 units)

Any matriculated graduate student may pursue this certificate. Non-matriculated post-graduate students may take the courses through Extended Studies Open University. Students must maintain a 3.0 average in these courses to be awarded the certificate.

## Undergraduate TESOL Certificate (Undergraduate)

The undergraduate certificate in TESOL is for students who have not yet completed the BA. Students complete courses related to the structure of English and teaching of English to speakers of other languages. For students whose major is not linguistics, the TESOL certificate can be combined with the minor in linguistics. To receive the undergraduate Certificate in TESOL, students must complete the following eighteen units of required course work:

### Certificate Requirements (18 units)

#### Core Courses (12 units)

- LING 101 - Introduction to Linguistics 3 *unit(s)*
- LING 107 - Patterns of English 3 *unit(s)*
- LING 108 - Introduction to Second Language Development, Teaching, and Assessment 3 *unit(s)*
- LING 166 - Sociolinguistics 3 *unit(s)*

## Electives (6 units)

Choose two courses with the approval of the TESOL Coordinator

## Total Units Required (18 units)

Any matriculated upper division student may pursue this certificate. Students must maintain a 3.0 average in these courses to be awarded the certificate.

# Minor

## Linguistics Minor

The minor in Linguistics provides training in the scientific study of language for students whose professional competence would be enhanced by a more thorough knowledge of linguistics than is provided in their majors.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Proficiency (0-10 units)

### Must meet one of the following criteria:

*For students for whom English is not the native language, one year of college level English study may fulfill this requirement.*

- One year of college level language other than student's native language 10 *unit(s)*
- Demonstrated equivalent competence 0 *unit(s)*
- One year of college level American Sign Language 6 *unit(s)*

## Minor Requirements (15 units)

### Core Courses (9 units)

- LING 101 - Introduction to Linguistics 3 *unit(s)*
- LING 111 - Introduction to Linguistic Phonetics 3 *unit(s)*
- LING 112 - Introduction to Syntax 3 *unit(s)*

### Electives (6 units)

Six units of upper division course work, approved by the linguistics advisor

## Total Units Required (15 units)

### *LING 20 - Nature of Language*

3 unit(s)

Introduction to the nature of language as a social institution and practice in observing language structure and use in local speech communities.

*Satisfies D1: Human Behavior*

**Grading:** Graded

### *LING 21 - Language and Thinking*

3 unit(s)

Exploring systems of language and logic in oral and written discourse, with a focus on the role of shared cultural assumptions, language style and the media of presentation in shaping the form and content of argumentation.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

### *LING 22 - Language across the Lifespan*

3 unit(s)

Introduction to what is known about how people successfully learn second languages, with a focus on physiological, psychological, social-cultural and linguistic factors that affect second language acquisition, and on skills and strategies that promote language learning across the lifespan.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *LING 24 - Language Variation in Space, Time, & Culture*

3 unit(s)

Exploring the diverse structural patterns and social functions found in English; analyzing the social, cultural, political, historical, and technological factors underlying language change; developing critical thinking and effective argumentation in writing.

*Satisfies A3 or D1: Critical Think or Human Behavior*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

### *LING 25 - Languages of the World*

3 unit(s)

Explore the diversity of the world's languages through studying major language families, including basic language

structure, language change and historical relationships, the sociocultural aspects of language, typological patterns and universals, writing systems and language vitality and endangerment.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*LING 26 - Quantitative Reasoning in Linguistic Diversity*

*3 unit(s)*

An introduction to descriptive and inferential statistics, including the visual interpretation and presentation of data about linguistic diversity and related social phenomena like education and immigration. Interpretation of numerical and graphical data to draw inferences about complex social issues.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Mathematics Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

**Grading:** Credit / No Credit

*LING 92 - Int'l Program Studies*

*1-9 unit(s)*

**Grading:** Mixed Grading

*LING 101 - Introduction to Linguistics*

*3 unit(s)*

Scientific study of language. Phonetics, phonology, morphology, syntax, semantics, pragmatics, sociolinguistics, psycholinguistics, historical linguistics, language universals and typology.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*LING 107 - Patterns of English*

*3 unit(s)*

Description of the sound, word-formation, sentence, semantic and discourse patterns of English. Analysis of contemporary examples of spoken and written English.

**Prerequisite(s):** Written Communication I (or equivalent).

**Grading:** Graded

*LING 108 - Introduction to Second Language Development, Teaching, and Assessment*

*3 unit(s)*

Theoretical and practical approaches to how people learn first, second, and foreign languages in bilingual and multilingual educational settings. Methods, materials, and assessment of language development for English language learners K-16.

**Prerequisite(s):** LING 101 or ENGL 103 or LLD 107.

**Grading:** Graded



*LING 111 - Introduction to Linguistic Phonetics*

3 unit(s)

Production, recognition and accepted transcription of speech sounds used in languages. Physiological and acoustic analysis of speech.

**Prerequisite(s):** LING 101 or instructor consent.

**Grading:** Graded

*LING 112 - Introduction to Syntax*

3 unit(s)

Introduction to the study of sentence structure: Syntactic constructions; constituent structure; grammatical relations; dependency relations; problems in syntactic analysis; formal systems for describing syntactic structure; typological range of syntactic phenomena.

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LING 113 - Introduction to Phonology*

3 unit(s)

Examination of sound patterns found in the world's languages, their description via traditional phonemic analysis, distinctive feature analysis and rule writing in the format of generative phonology.

**Prerequisite(s):** LING 101 and LING 111.

**Grading:** Graded

*LING 114 - Introduction to Semantics and Discourse*

3 unit(s)

Approaches to meaning, truth conditional semantics, relation of semantics to pragmatics and speech act theory (e.g., presupposition, deixis, adjacency pairs) and text structure (cohesion).

**Prerequisite(s):** LING 101 or instructor consent.

**Grading:** Graded

*LING 115 - Corpus Linguistics*

3 unit(s)

Introduction to the use of large collections of computer-readable text ("corpora") in linguistics. Focus on text processing techniques and quantitative data analysis. Other topics: philosophical foundations; lexical resources; the WWW as corpus; applications to stylistics, language teaching, and sociolinguistics.

**Prerequisite(s):** LING 101 and CS 22A, or instructor consent

**Grading:** Graded

*LING 122 - English as a World Language*

3 unit(s)

A survey of the ways and the purposes which English is used in diverse societies and cultures around the world, including the United States; implications for international and cross-cultural communication.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*LING 123 - Sound and Communication*

*3 unit(s)*

Basic acoustics and nature of sound as applied to the study of vocal communication by humans and other animals. Voice communication as transmission of a speech code via sound.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*LING 124 - Introduction to Speech Technology*

*3 unit(s)*

Strategies in man-machine communication, with a focus on speech recognition and speech synthesis. Computer modeling of speech production and perception.

**Prerequisite(s):** LING 101, LING 111 or instructor consent.

**Grading:** Graded

*LING 125 - Introduction to Historical and Comparative Linguistics*

*3 unit(s)*

Why and how languages change; how linguists go about studying, documenting and explaining such change. Social and phonetic motivations for change. Language families and proto-languages.

**Prerequisite(s):** LING 101, LING 111 or instructor consent.

**Grading:** Graded

*LING 129 - Culture, Language and Ethnicity in the U.S.*

*3 unit(s)*

The role of language in the formation of culture and ethnicity in the U.S. Language and culture contact between indigenous, colonial and immigrant peoples.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies

courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*LING 161 - Psycholinguistics*

3 unit(s)

Psychology of language. Child language acquisition, language disorders, representation of language in the brain, cognitive aspects of linguistic communication, theories of language in linguistics and psychology.

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LING 162 - Introduction to Morphology*

3 unit(s)

Examination of the morphological structure of words; morphological typology; morphemes, morphs and allomorphs; issues in inflectional and derivational morphology; morphophonemics; word syntax; productivity, markedness, iconicity.

**Prerequisite(s):** LING 101 or instructor consent.

**Grading:** Graded

*LING 165 - Introduction to Natural Language Processing*

3 unit(s)

Computer processing of text using data-driven (statistical) and knowledge-driven (rule-based) methods. Applications including spelling correction, information retrieval, question answering, and machine translation.

**Prerequisite(s):** LING 101 and LING 115, or instructor consent.

**Grading:** Graded

*LING 166 - Sociolinguistics*

3 unit(s)

Relationship between language and society; language and identity (including social constructs of gender, race/ethnicity, age, or social class); introduction to theories of language variation and change and methods used in sociolinguistic research.

**Prerequisite(s):** LING 101 or Instructor Consent.

**Grading:** Graded

*LING 167 - Multilingualism and Language Contact*

3 unit(s)

Offers global and local perspectives on bi-/multilingualism, at the level of the individual (language acquisition, language choice, identity) and society (language ideologies and policies); explores varied social and linguistic outcomes of languages contact (pidgin and creole languages, code-switching, language shift).

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LING 180 - Individual Studies*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** Instructor consent and department chair approval.

**Grading:** Credit/No Credit

*LING 192 - Int'l Program Studies*

1-9 unit(s)

**Grading:** Mixed Grading

*LING 201 - Phonology: Theory and Applications*

3 unit(s)

Survey of the theoretical issues in phonology; language universals; notions of markedness and natural rules; psychological reality of phonological constructs. Applications to language teaching, speech synthesis and automatic speech recognition.

**Prerequisite(s):** LING 101, LING 111 and LING 113.

**Grading:** Graded

*LING 202A - Syntactic Theory*

3 unit(s)

Aspects of syntax and grammatical theory.

**Prerequisite(s):** LING 101 and LING 112.

**Grading:** Graded

*LING 203 - Semantic Structures*

3 unit(s)

Aspects of meaning and semantic theory.

**Prerequisite(s):** LING 101 and LING 114, or instructor consent.

**Grading:** Graded

*LING 213 - Linguistic Field Methods*

3 unit(s)

Methods in phonological, morphological and syntactic analysis of linguistic data obtained from native-speaker informants.

**Prerequisite(s):** LING 101, LING 111, LING 112 and LING 113 (or equivalents).

**Grading:** Graded

*LING 298 - Individual Studies*

1-4 unit(s)

Advanced individual research.

**Prerequisite(s):** Instructor consent.  
**Grading:** Mandatory CR/NC/RP

*LING 299 - Master's Thesis or Project*

1-6 unit(s)  
Thesis or project research.

**Grading:** Mandatory CR/NC/RP

*LING 1290R - Culminating Experience Supervision*

1 unit(s)  
Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class.  
**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*LLD 92 - Int'l Program Studies*

1-6 unit(s)  
**Grading:** Mixed Grading

*LLD 100A - Writing Competency through Genres*

3 unit(s)  
Satisfies the Writing Skills Test (WST) requirement if passed with a C or better. Prepares students for 100W through drafting feedback and revision to demonstrate competency. Develops the ability to analyze written genres used in the students' chosen disciplines and to write analytical and reflective essays.

**Prerequisite(s):** Must have failed the WST or students who have not taken the WST must have completed GE area A3, ENGL 1B, HUM 2B, or equivalent with a C- or better.  
**Grading:** Graded

**Note(s):** A Credit/No Credit grading option may not be used to satisfy the WST requirement.

*LLD 100W - Writing Workshop*

3 unit(s)  
Advanced composition. Instruction and practice in reading, discussing and writing about issues germane to the student's major field of study.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. No Business Administration majors. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*LLD 100WB - Writing Workshop for Business Students*

3 unit(s)

Instruction and practice in reading, oral interaction and writing activities germane to the genres of the business world.  
GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** Completion of Core GE, ENGL 2 or any A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Business Administration majors, Industrial Arts, Industrial Technology, Public Relations, Hospitality Management. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*LLD 182 - Tutorial Practicum*

1 unit(s)

Directed practical experience in tutoring academic English at the college level.

**Prerequisite(s):** LING 101, LLD 107 or ENGL 103.

**Grading:** Credit/No Credit

*LLD 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*LLD 250W - Becoming a Professional in Linguistics/TESOL*

3 unit(s)

Course focuses on the research and communication skills needed to become an active and effective member of the professional community in linguistics or TESOL.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*LLD 260 - English Structures for Teaching I*

3 unit(s)

The phonological, morphological and syntactic structures of English for pedagogical purposes.

**Prerequisite(s):** LING 101 and LING 107.

**Grading:** Graded

*LLD 261 - English Structures for Teaching II*

3 unit(s)

The semantic, pragmatic and discourse structure of English for pedagogical purposes.

**Prerequisite(s):** LLD 260 or Instructor Consent

**Grading:** Graded

*LLD 270 - Second Language Acquisition*

3 unit(s)

Products and processes of child and adult second language acquisition: classroom instruction versus untutored settings; psychological variables; individual differences; interlanguage hypothesis; input and interaction in language development; organization of language systems of bilinguals.

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LLD 271 - Intercultural Communication and Second Language Acquisition*

3 unit(s)

The social and cultural factors that affect first and second language acquisition and use. Understanding how to function in intercultural settings.

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LLD 280 - Methods and Materials for Teaching English to Speakers of Other Languages*

3 unit(s)

A critical approach to evaluating learners' needs, designing curricula, identifying and evaluating materials, and applying appropriate methods and techniques in the ESL classroom.

**Prerequisite(s):** LING 101.

**Grading:** Graded

*LLD 282 - Practicum in Teaching English to Speakers of Other Languages*

3 unit(s)

Directed practical experience in teaching English to speakers of other languages.

**Prerequisite(s):** LLD 280.

**Grading:** Credit/No Credit

*LLD 283 - Curriculum and Assessment in TESOL*

3 unit(s)

Theories and practices of needs analysis, curriculum design and assessment. Hands-on experience in identifying learner needs, determining instructional objectives, designing curricula/syllabi and constructing appropriate

assessment instruments.

**Prerequisite(s):** LLD 280 (or equivalent).

**Grading:** Graded

*LLD 293 - Teaching College-level Reading and Writing*

3 unit(s)

Theoretical foundations of literacies; strategies and approaches for teaching academic reading and writing to culturally and linguistically diverse classes in college and other post-secondary contexts

**Prerequisite(s):** LING 101, LING 107, or ENGL 103

**Grading:** Graded

*LLD 298 - Individual Studies*

1-4 unit(s)

Advanced individual research.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*LLD 299 - Master's Thesis or Project*

1-6 unit(s)

Thesis or project research.

**Grading:** Mandatory CR/NC/RP

*LLD 1003S - Academic English 3S*

3 unit(s)

Further emphasis on development of English for academic purposes. Integration of reading and writing, supplemented by use of oral language. Required for students scoring 148 and below on the EPT who did not pass LLD 1001 or LLD 1002.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*LLD 1004 - Tutorial for Successful Writing*

1 unit(s)

Tutorial consists of a combination of one-on-one interaction with a tutor and facilitated word processing in the computer lab. It is designed to support the development of academic writing skills.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*LLD 1290R - Culminating Experience Supervision*



1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Philosophy

**Office:** Faculty Offices 201

**Telephone:** 408-924-4468

**Email:** [philosophy@sjsu.edu](mailto:philosophy@sjsu.edu)

**Website:** [www.sjsu.edu/philosophy](http://www.sjsu.edu/philosophy)

### Professors

Karin Brown  
Peter Hadreas  
Thomas Leddy  
Bo Mou  
Carlos A. Sanchez  
Janet Stemwedel, Chair  
Anand Vaidya

### Assistant Professors

Etienne Brown  
Rebecca Chan  
Jordan Liz

## Overview

Philosophy majors read and discuss ideas generated by some of the greatest thinkers in history and learn to examine contemporary theoretical problems from a philosophical perspective. Noted for its treatment of philosophy in a global context as well as its engagement with issues reflecting its Silicon Valley setting, the Department of Philosophy offers classes taught by faculty recognized and highly regarded for both teaching and scholarship. Our curriculum is equally strong in traditional and innovative areas of philosophy, such as feminist and applied philosophy, and we offer both undergraduate and graduate degree programs. Because the study of philosophy develops a student's ability to analyze ideas and arguments, to think critically and to write well, a major in philosophy provides pre-professional training in a number of fields, including the fields of law, medicine, psychology and theology.

## Undergraduate

### Philosophy, BA

- Department of Philosophy
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Requirements	33
University Electives	52
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement (3 units)**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Requirements (33 units)**

- PHIL 70A - Ancient Philosophy 3 *unit(s)* (C2)
- PHIL 70B - Modern Philosophy 3 *unit(s)* (C2)

**Complete One Course From:**

- PHIL 9 - Mathematics and Logic for General Education 3 *unit(s)* (B4)
- PHIL 57 - Logic and Critical Reasoning 3 *unit(s)* (A3)
- PHIL 157 - Intermediate Logic & Language Analysis 3 *unit(s)* (PHIL 157 requires permission from advisor)

**Complete One Seminar Course From:**

- PHIL 190 - Seminar in Philosophical Classics 3 *unit(s)*
- PHIL 195 - Seminar in Philosophy of Law 3 *unit(s)*

- PHIL 290 - Advanced Seminar in a Selected Philosopher or Tradition 3 unit(s) (GWAR)
- PHIL 291 - Advanced Seminar in Epistemology and Metaphysics 3 unit(s) (GWAR)
- PHIL 292 - Advanced Seminar in Ethics or Aesthetics 3 unit(s)
- PHIL 293 - Advanced Seminar in Logical Theory 3 unit(s)

## Philosophy Electives (21 units)

Complete seven upper division Philosophy courses, which may include SJSU Studies Philosophy courses.

*Students may substitute a Graduate Level Philosophy course for one of the seven upper division Philosophy courses with permission from the advisor.*

## University Electives (52 units)

*At least 4 units must be Upper Division*

## Total Units Required (120 units)

# Master

## Philosophy, MA

The MA Philosophy program is offered by the Department of Philosophy.

**Advisors:** Dr. Carlos A. Sanchez

# Requirements for Admission to Classified Standing

Candidates must meet all university requirements for admission. In addition, a student will be admitted to classified status only if:

1. At least 18 units in philosophy have been taken including at least 6 units in upper division work, at least 6 units in the history of philosophy, at least 3 units in ethics, and at least 3 units of symbolic logic (Phil 9 or its equivalent). Exceptions based on comparable studies and experience may be made with graduate committee approval.
2. The average grade received in the 18 units is at least a "B".
3. Three letters of recommendation have been submitted.

# Admission to Conditionally Classified Standing

Applicants who meet requirements for admission to the Graduate Division but who do not meet all the requirements for classified standing will be admitted as conditionally classified.

# Requirements for Admission to Candidacy for the MA - Philosophy

The basic requirements for advancement to candidacy for the MA Philosophy are outlined in detail in the Academic Requirements section. The University requires that all graduate students satisfy the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions & Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Completing Requirements

### Plan A - Thesis

Designed for students who wish to do a thesis.

### Plan B - Option 1: Reading Intensive

Designed for students who wish to do a guided, individualized reading project.

### Plan B - Option 2: Applied Philosophy Project

Designed for students who wish to do a project.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Core Courses (12 units)

- PHIL 290 - Advanced Seminar in a Selected Philosopher or Tradition 3 *unit(s)* (GWAR)
- PHIL 291 - Advanced Seminar in Epistemology and Metaphysics 3 *unit(s)* (GWAR)
- PHIL 292 - Advanced Seminar in Ethics or Aesthetics 3 *unit(s)*

#### Complete One Course From:

- PHIL 157 - Intermediate Logic & Language Analysis 3 *unit(s)*
- PHIL 293 - Advanced Seminar in Logical Theory 3 *unit(s)*

#### Elective Courses (12 units)

*One or more of 290, 291, 292, and 293 may be repeated as electives when the course content is different*

- 100- or 200-level courses within the department

## Comprehensive Exam

Taken after most of the core and elective courses are completed

## Choose One Plan

### Plan A- Option 1: Thesis (6 units)

- 200-Level course chosen with advisor *1-3 unit(s)*
- PHIL 299 - Master's Thesis *3 unit(s)*

### Plan B- Option 1: Reading Intensive (6 units)

- 200-level course (on advisement) *1-3 unit(s)*
- PHIL 298 - Special Studies *1-3 unit(s)*

### Plan B- Option 2: Applied Philosophy Project (6 units)

- 200-Level course chosen with advisor *1-3 unit(s)*
- PHIL 298 - Special Studies *1-3 unit(s) (3 units required)*

## Total Units Required (30 units)

## Minor

### Philosophy Minor

The selection of philosophy courses should expose the student to the history, traditions and methods of philosophy in a manner that helps students to productively assess their major course work within a broader philosophical perspective.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

- Lower Division Philosophy courses chosen with Advisor *6 unit(s)*
- Upper Division Philosophy courses chosen with Advisor *9 unit(s)*
- An additional Lower or Upper Division Philosophy course chosen with Advisor *3 unit(s)*

## Total Units Required (18 units)

### *PHIL 9 - Mathematics and Logic for General Education*

3 unit(s)

A survey of basic concepts and methods, focusing on logic, computation, sets, numbers, geometry and probability. Emphasis will be placed on using these concepts in daily life and in coping with public issues.

*Satisfies B4: Mathematical Concepts*

**Corequisite(s):** PHIL 9W required as a corequisite for Math Enrollment Categories M-III and M-IV; and recommended for Enrollment Category M-II.

**Grading:** Graded

### *PHIL 9W - Mathematics & Logic for General Education Workshop*

1 unit(s)

Companion laboratory-style course for PHIL 9; concurrent enrollment in both is required. Focuses on providing extra help and support for students with both concepts and techniques from propositional logic and from first-order logic.

**Corequisite(s):** PHIL 9.

**Grading:** Graded

### *PHIL 10 - Introduction to Philosophy*

3 unit(s)

Perennial problems in philosophy, such as Who am I? What can I know? How should I live? Classical philosophical statements bearing on these issues.

*Satisfies C2: Letters*

**Grading:** Graded

### *PHIL 12 - Philosophy of the Person*

3 unit(s)

Philosophical issues concerning the origins, development and maturation of the self.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

### *PHIL 57 - Logic and Critical Reasoning*

3 unit(s)

Basic concepts of logic; goals and standards of both deductive and inductive reasoning; techniques of argument analysis and assessment; evaluation of evidence; language and definition; fallacies.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*PHIL 61 - Moral Issues*

3 unit(s)

Moral philosophy covering major ethical theories and contemporary moral issues, such as abortion, euthanasia, animal rights, capital punishment, and sexuality.

*Satisfies C2: Letters*

**Grading:** Graded

*PHIL 66 - Introduction to Aesthetics*

3 unit(s)

Issues such as the nature of beauty and ugliness, definition of art, creativity, and interpretation and evaluation of art. Philosophical discussion of works of art and our responses to them.

*Satisfies C1: Arts*

**Grading:** Graded

*PHIL 70A - Ancient Philosophy*

3 unit(s)

Includes pre-Socratics, Socrates, Plato and Aristotle; Hellenistic, Roman and Medieval philosophy.

*Satisfies C2: Letters*

**Grading:** Graded

*PHIL 70B - Modern Philosophy*

3 unit(s)

Seventeenth and eighteenth century philosophers such as Bacon, Descartes, Hobbes, Spinoza, Locke, Leibniz, Berkeley, Hume and Kant.

*Satisfies C2: Letters*

**Grading:** Graded

*PHIL 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*PHIL 96L - Math & Logic for GE Workshop*

1 unit(s)

In-depth exploration of concepts, methods, and problem-solving strategies for PHIL 009. Opportunities for additional practice, applications, and feedback.

**Corequisite(s):** PHIL 9

**Grading:** Graded



*PHIL 104 - Asian Philosophy*

3 unit(s)

Philosophical examination of Confucianism, Daoism, Buddhism and some other significant movements of thought originated in Asia. Comparison with Western philosophy.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 106 - Philosophy of Art*

3 unit(s)

Aesthetics covering the main schools of thought about art and selected topics related to specific arts, music, theatre, sculpture, painting, literature, etc.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 107 - Philosophy and Literature*

3 unit(s)

Philosophical theories presented through philosophical texts and philosophically focused literary works.

**Prerequisite(s):** 3 units of Philosophy or upper division standing.

**Grading:** Graded

*PHIL 108 - Political and Social Philosophy*

3 unit(s)

Equality, justice, rights, liberty, the state, law and revolution. Readings drawn from classical and contemporary sources.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 109 - Philosophy of Religion*

3 unit(s)

Philosophical issues regarding the existence of a supreme being, evil, mysticism, miracles, reincarnation, faith, the possibility of enlightenment, and the connection between religion and morality.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 110 - Science, Technology and Human Values*

3 unit(s)

The aims, methods and world views of science and technology; such value issues as technological determinism, design aesthetics and moral implications of computer and other technologies. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 111 - Medical Ethics*

3 unit(s)

Selected ethical problems in health care practices. For example, abortion, patient rights, national health care, euthanasia and genetic engineering, with emphasis on philosophical methods.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 112 - American Philosophy*

3 unit(s)

The eighteenth century beginnings of American philosophy, Transcendentalism, Pragmatism, classic American philosophy, including Emerson, Peirce, James, Santayana, Dewey, and recent developments.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 113 - Existentialism and Phenomenology*

3 unit(s)

Twentieth century philosophies of experience and human existence. Main topics include description of consciousness, personal authenticity, choice, anxiety, death of God. Philosophers range from Husserl and Heidegger to Sartre and de Beauvoir.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 117 - Philosophy of Race*

3 unit(s)

Introduces and analyzes the predominant philosophical, cultural and scientific views on race and examines the issue of racism primarily in American culture. Topics include: social construction of race, nature of racism, intersection of race and other systems of oppression (e.g. sexism, classism, ableism etc.), as well as contemporary issues such as race-based medicine, race and the industrial prison complex, immigration, and racial justice.

**Grading:** Graded

*PHIL 118 - Latin American Philosophy*

3 unit(s)

Analysis of main themes of Latin-American, Mexican and Mexican-American thought.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 119 - Africana Philosophy and Culture*

3 unit(s)

Philosophical examination of the ideological roots of social movements in black diaspora cultures from Be-Bop to Hip-Hop.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 120 - Comparative Philosophy Theory & Practice*

3 unit(s)

Examination of how different philosophical traditions (distinguished by culture or by style) via their relevant resources can talk to and learn from each other and make substantial joint contributions to our understanding and treatment of a range of philosophical issues.

**Prerequisite(s):** 3 units of philosophy or upper division standing

**Grading:** Graded

*PHIL 121 - Philosophy and Feminism*

3 unit(s)

A philosophical examination of writings that deal with issues of special concern to women, with emphasis on feminist writings.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 122 - Social Justice*

3 unit(s)

Critical examination of competing conceptions of justice and their application to social issues in a pluralistic society.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 126 - Environmental Ethics and Philosophy*

3 unit(s)

Extensions and applications of Kantian, Lockean, consequentialist and other philosophical theories of value to problems of the environment such as pollution, global warming, species depletion and overpopulation.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 132 - Ethical Theory*

3 unit(s)

Theoretical problems in the understanding of right conduct, value, obligation, justice, and virtue.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 133 - Ethics in Science*

3 unit(s)

An examination of values and practices in the culture of science. Issues: transmission of values in scientific communities, interactions between scientific and lay communities, historical development of norms of responsible research, cultural influence on scientific values. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 134 - Computers, Ethics and Society*

3 unit(s)

The nature of privacy in a technologically interconnected world; the role of computer technologies in the exercise of the human intellect and imagination with respect to freedom of expression and the social good; rights and responsibilities of intellectual property ownership.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 149 - Metaphysics & Epistemology*

3 unit(s)

Such topics as nature of knowledge, skepticism, nature of reality, space, time, substance and causality. Course is repeatable once for credit in different area.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 155 - Philosophy of Law*

3 unit(s)

Theories of the nature of law, legal reasoning, and morality. Philosophical issues in criminal, civil, and constitutional

law.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 157 - Intermediate Logic & Language Analysis*

*3 unit(s)*

Predicate logic, methods of proof and some meta theory. Additional systems of logic may be considered.

**Prerequisite(s):** PHIL 9 or instructor consent.

**Grading:** Graded

*PHIL 158 - Philosophy of Language*

*3 unit(s)*

Philosophical investigations into language in view of its relation to reality, thought, and logic.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 159 - Philosophy of Mind*

*3 unit(s)*

Problems in connection with emotion, intention, human action and personal identity.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*PHIL 160 - Philosophy of Science*

*3 unit(s)*

Scientific methodology, explanation and verification; science and society. Varying topics from physical, biological and social sciences. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 180 - Individual Studies*

*1-3 unit(s)*

By arrangement. Course is repeatable for a total of 4 units.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Department chair consent.

**Grading:** Credit/No Credit

*PHIL 184 - Directed Reading*

1-3 unit(s)

Course is repeatable for a total of 4 units.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Qualified upper division student.

**Grading:** Credit/No Credit

*PHIL 186 - Professional and Business Ethics*

3 unit(s)

Interdisciplinary study of types of ethical problems which arise within the contexts of business occupations and professions. Major ethical theories, critique of economic and criminal justice. Focus is on issues of justice and equality in the U.S. Case studies.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHIL 190 - Seminar in Philosophical Classics*

3 unit(s)

Works of a major philosopher or philosophical tradition. Course is repeatable for up to 12 units of credit when a seminar topic is different.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** PHIL 70A and PHIL 70B and 6 units of upper division philosophy or instructor consent.

**Grading:** Graded

*PHIL 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*PHIL 195 - Seminar in Philosophy of Law*

3 unit(s)

Critical examination of topics in legal philosophy.

**Prerequisite(s):** 3 units of Philosophy and upper division standing.

**Grading:** Graded

*PHIL 264A - Professional/Business Ethics*

3 unit(s)

Ethical principles relevant to decision-making in business situations. Using case studies, examines and analyzes moral issues to determine the most appropriate actions. Experiential and self-reflective as well as theoretical.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*PHIL 281 - Philosophy of Education*

3 unit(s)

Critical philosophical issues as they bear on education in a democratic society.

**Grading:** Graded

*PHIL 289 - Graduate Proseminar*

3 unit(s)

Prepares graduate students for graduate work, teaching, professionalism, and future steps' particularly applying to PhD programs or teaching jobs. Topics include: reading philosophy, the writing process, teaching pedagogy, course design, presenting in professional settings, and writing a successful application. Open to advanced undergraduate students who are considering pursuing graduate work in philosophy.

**Prerequisite(s):** Graduate student or upper division Philosophy major standing.

**Grading:** Graded

*PHIL 290 - Advanced Seminar in a Selected Philosopher or Tradition*

3 unit(s)

An exhaustive and detailed study of the entire, or most significant, writings of some outstanding philosopher or philosophical tradition. Course is repeatable for credit when seminar topic is different.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Nine units of philosophy including PHIL 70A and PHIL 70B or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PHIL 291 - Advanced Seminar in Epistemology and Metaphysics*

3 unit(s)

Classical or contemporary problems in knowledge and reality. Course is repeatable for credit when seminar topic is different.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** At least one upper division course in epistemology or metaphysics, or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PHIL 292 - Advanced Seminar in Ethics or Aesthetics*

3 unit(s)

Classic or contemporary problems in some value area such as that of moral or aesthetic value. Course is repeatable for up to 12 units of credit when seminar topic is different.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** At least one upper division course in ethics or value theory, or instructor consent.

**Grading:** Graded

*PHIL 293 - Advanced Seminar in Logical Theory*

3 unit(s)

Concepts of logic, such as truth and inference, considered on an advanced level. Course is repeatable for credit when seminar topic is different.

**Prerequisite(s):** PHIL 9, PHIL 157 or instructor consent.

**Grading:** Graded

*PHIL 298 - Special Studies*

1-3 unit(s)

**Prerequisite(s):** Advisor consent.

**Grading:** Mandatory CR/NC/RP

*PHIL 299 - Master's Thesis*

3 unit(s)

**Prerequisite(s):** Advisor consent.

**Grading:** Mandatory CR/NC/RP

## Department of World Languages and Literatures

**Office:** Clark Hall 421

**Telephone:** 408-924-4602

**Email:** world-languages@sjsu.edu

**Website:** www.sjsu.edu/wll

### Professors

Damian Bacich, Chair

Jean-Luc Desalvo

Romey Sabalius

### Associate Professors

Eleanor Marsh

Yasue K. Yanai



## Assistant Professors

Vanessa Fernandez  
 Avizia Long  
 Chunhui Peng  
 Ruby Ramirez  
 Cheyla Samuelson  
 Michiko Uryu

# Overview

Connect with the world. Study abroad. Become multilingual. Deepen your understanding of other cultures. Read great works of literature. The Department of World Languages and Literatures helps students communicate effectively and thrive in a global context. Our programs are multifaceted, our faculty and students are multicultural, our curriculum is international.

We offer majors and minors in four of the most widely spoken languages in the world: Mandarin Chinese, Japanese, French, and Spanish, and an M.A. program in Spanish. We also offer language minors in International Business, Italian, Portuguese, German, and Latin American Studies, and a single subject teaching credential program in French, Japanese, Mandarin Chinese and Spanish.

We offer language and culture courses in Assyrian, Hebrew, Filipino/Tagalog, Russian and Vietnamese, as well as classes in Greek and Latin. Our graduates work as teachers, executives, translators, interpreters, civil servants, journalists, and hold many other occupations in global business and finance.

# Proficiency Examination

A proficiency examination in the language is required of candidates for a teaching credential and is a prerequisite for enrollment in any graduate course.

# Undergraduate

## Chinese, BA

- Department of World Languages and Literatures
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	20
Major Requirements	37-38
University Electives	21-22
<b>Total</b>	<b>120</b>

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)

- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (20 units)

*(Or CHIN 25A/CHIN 25B equivalent)*

- CHIN 25A - Intermediate Chinese 4 *unit(s)* (C2)
- CHIN 25B - Intermediate Chinese 4 *unit(s)* (C2)

## Foreign Language Requirement

- 12 units of a second world language 12 *unit(s)*

## Major Requirements (37-38 units)

- CHIN 101A - Advanced Chinese 4 *unit(s)*
- CHIN 101B - Advanced Chinese 4 *unit(s)*
- CHIN 140 - Chinese Culture and Politics Through Literature 3 *unit(s)* (V)
- FORL 100W - Writing Workshop 3 *unit(s)* (Z)

## Complete Six Courses From:

- CHIN 102 - Chinese Culture 4 *unit(s)*
- CHIN 110 - Structure of the Chinese Language 4 *unit(s)*
- CHIN 120A - Modern Chinese Literature (1900-1949) 4 *unit(s)*
- CHIN 120B - Introduction to Classical Chinese Literature 4 *unit(s)*
- CHIN 130 - Readings in Chinese Culture 4 *unit(s)*

- CHIN 132 - Special Topics in Chinese for Careers 4 *unit(s)*
- RELS 144 - Chinese Traditions 3 *unit(s)*

## University Electives (21-22 units)

## Total Units Required (120 units)

## French, BA

- Department of World Languages and Literatures
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	20
Major Requirements	34
University Electives	25
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

## Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (20 units)

- FREN 25A - Intermediate French: Reading 4 *unit(s)* (C2)
- FREN 25B - Intermediate French: Writing 4 *unit(s)* (C2) (Or equivalent)

## Foreign Language Requirement

- 12 units of a second world language (or equivalent) *12 unit(s)*

## Major Requirements (34 units)

### Core Courses (34 units)

- FORL 100W - Writing Workshop *3 unit(s) (Z)*
- FREN 102B - Francophone Cultures: Through Literature and Cinema *3 unit(s) (V)*

### Complete 2-3 Course From:

- FREN 101A - Advanced French: Reading and Writing *4 unit(s)*
- FREN 101B - Advanced French: Written Communication *4 unit(s)*
- FREN 101C - Advanced French: Oral Communication *4 unit(s)*

### Complete 1-3 Courses From:

- FREN 105 - Advanced Grammar: Phonetic Analysis *4 unit(s)*
- FREN 110 - Advanced Grammar: Grammatical Analysis *4 unit(s)*
- FREN 132 - Special Topics in French for Careers *4 unit(s)*
- FREN 170 - Translation and Comparative Stylistics *4 unit(s)*

### Complete 2-4 Course From:

- FREN 120A - French Literature from the Middle Ages to 1600 *4 unit(s)*
- FREN 120B - French Literature of the Seventeenth through the Eighteenth Centuries *4 unit(s)*
- FREN 140A - French Literature of the Nineteenth Century *4 unit(s)*
- FREN 140B - French Literature 20th-21st Centuries *4 unit(s)*

### Complete 0-2 Course From:

- FREN 102A - French Culture *4 unit(s)*
- FREN 102C - French Culture *4 unit(s)*
- FREN 160 - Masters of French Literature *4 unit(s)*

## University Electives (25 units)

## Total Units Required (120 units)

# French, Preparation for Teaching, BA

This major is designed for students interested in teaching world languages in high school or middle school. The following course work satisfies San José State University's requirements for a BA in French, offered by the Department of World Languages and Literatures. A minimum grade point average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 44

Major Preparation 15-19

Major Core Requirements 31

Concentration Requirements 16

Minor Requirements 12-18

University Electives 3-13

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (15-19 units)

*(Or FREN 25A/FREN 25B/FREN 25C equivalent)*

- FREN 25A - Intermediate French: Reading 4 *unit(s)* (C2)
- FREN 25B - Intermediate French: Writing 4 *unit(s)* (C2)



- FREN 25C - Intermediate French: Oral Communication *4 unit(s)*

## Foreign Language Requirement

- One year of a second world language, ancient or modern (or equivalent) *6-10 unit(s)*

## Major Requirements (36 units)

- FREN 101A - Advanced French: Reading and Writing *4 unit(s)*
- FREN 101B - Advanced French: Written Communication *4 unit(s)*
- FREN 101C - Advanced French: Oral Communication *4 unit(s)*
- FREN 102A - French Culture *4 unit(s)*
- FREN 102C - French Culture *4 unit(s)*
- FREN 105 - Advanced Grammar: Phonetic Analysis *4 unit(s)*
- FREN 110 - Advanced Grammar: Grammatical Analysis *4 unit(s)*
- FORL 100W - Writing Workshop *3 unit(s) (Z)*

## Complete Four Courses From:

- FREN 120A - French Literature from the Middle Ages to 1600 *4 unit(s)*
- FREN 120B - French Literature of the Seventeenth through the Eighteenth Centuries *4 unit(s)*
- FREN 132 - Special Topics in French for Careers *4 unit(s)*
- FREN 140A - French Literature of the Nineteenth Century *4 unit(s)*
- FREN 140B - French Literature 20th-21st Centuries *4 unit(s)*
- FREN 160 - Masters of French Literature *4 unit(s)*
- FREN 170 - Translation and Comparative Stylistics *4 unit(s) (including two from FREN 120A, FREN 120B, FREN 140A, FREN 140B, FREN 170)*

## Required Minor (12-18 units)

A minor in another world language is recommended

## University Electives (3-13 units)

## Total Units Required (120 units)

# Japanese, BA

- Department of World Languages and Literatures
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 41

Major Preparation	20
Major Core Requirements	22
Major Elective Courses	23-24
University Electives	13-14
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (20 units)

- JPN 25A - Intermediate Japanese 4 *unit(s)* (C2) or equivalent
- JPN 25B - Intermediate Japanese 4 *unit(s)* (C2) or equivalent

## Foreign Language Requirement

- 12 units of a second world language (or equivalent) 12 *unit(s)*

## Major Requirements (45-46 units)

## Core Courses (22 units)

- JPN 101C - Advanced Conversational Japanese 4 *unit(s)*
- JPN 101A - Advanced Japanese 4 *unit(s)*

- JPN 101B - Advanced Japanese *4 unit(s)*
- JPN 102A - Japanese Culture *4 unit(s)*
- JPN 102B - Local and Minority Cultures in Japan *3 unit(s) (V)*
- FORL 100W - Writing Workshop *3 unit(s) (Z)*

## Elective Courses (23-24 units)

Complete six courses:

- JPN 103 - Japanese Ideography and Calligraphy *4 unit(s)*
- JPN 105 - Media Japanese *4 unit(s)*
- JPN 107 - Japanese for Business Professionals *4 unit(s)*
- JPN 110 - Japanese Linguistics *4 unit(s)*
- JPN 120 - Japanese Literature and Translation *4 unit(s)*
- JPN 130 - Readings in Japanese Culture *4 unit(s)*
- JPN 140 - Japanese Drama and Lyrics *4 unit(s)*
- JPN 150 - Japanese Narratives and Life stories *4 unit(s)*
- JPN 160 - Special Topics in Japanese Studies *3 unit(s)*

## University Electives (13-14 units)

## Total Units Required (120 units)

## Spanish, BA

The following course work satisfies San José State University's requirements for a BA in Spanish, offered by the Department of World Languages and Literatures. A minimum grade point average (GPA) criteria may be required for verification of subject matter competency.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	20
Major Requirements	42
University Electives	0-17
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (42 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (20 units)

*(or SPAN 25A/SPAN 25B equivalent)*

- SPAN 25A - Intermediate Spanish 4 *unit(s)* (C2)
- SPAN 25B - Intermediate Spanish 4 *unit(s)* (C2)

## Foreign Language Requirement

- 12 units of a second language (or equivalent) 12 *unit(s)*

## Major Requirements (42 units)

### Core Courses (42 units)

- FORL 100W - Writing Workshop 3 *unit(s)* (Z)
- SPAN 101A - Advanced Spanish 4 *unit(s)*
- SPAN 101B - Advanced Spanish 4 *unit(s)*
- SPAN 102A - Spanish Culture 4 *unit(s)*
- SPAN 102B - Hispanic American Culture 3 *unit(s)* (V)
- SPAN 105 - Spanish Phonology 4 *unit(s)*
- SPAN 110 - Spanish Morphology and Syntax 4 *unit(s)*
- SPAN 115 - Introduction to Literary Studies in Spanish 4 *unit(s)*

### Complete two courses (8 units):

- SPAN 120A - Spanish Literature I 4 *unit(s)*
- SPAN 120B - Spanish Literature II 4 *unit(s)*
- SPAN 140A - Spanish American Literature 4 *unit(s)*
- SPAN 140B - Spanish American Literature II 4 *unit(s)*
- SPAN 160C - Hispanic Literature 4 *unit(s)*

## Complete one course (4 units):

- SPAN 111 - Advanced Spanish Conversation *4 unit(s)*
- SPAN 160A - Hispanic Culture *4 unit(s)*
- SPAN 160B - Hispanic Linguistics *4 unit(s)*
- SPAN 170 - Spanish Translation: Theory and Practice *4 unit(s)*
- SPAN 132 - Special Topics in Spanish for Careers *4 unit(s)*

## University Electives (0-17 units)

Electives must be selected with advisor approval.

## Total Units Required (120 units)

# Master

## Spanish, MA

- Admissions Requirements
- Advancement to Candidacy
- Program Requirements
- Master's Requirements (32 units)
- Program Learning Outcomes

The Master of Arts Degree in Spanish offers students the opportunity to pursue studies in Hispanic literature, linguistics, and culture. The program prepares students for doctoral studies and for careers in the teaching of Spanish, bilingual education, international business, social and governmental services, and other related areas.

More information can be found on the Department of World Languages and Literatures website: [www.sjsu.edu/wll](http://www.sjsu.edu/wll).

# Admissions Requirements

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MA, Spanish degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

# Requirements for Admission to Classified Standing

Minimum requirements for admission to the Graduate Division are outlined in this catalog. In order to be admitted to classified standing in the MA program in Spanish, students should possess the following:

1. A bachelor's degree (or its equivalent, as assessed by the department), with a major in Spanish, and including at least 16 units of upper-division work in the major with a grade of "B" or better.
2. Evidence of college-level proficiency in Spanish.

## Requirements for Admission to Conditionally Classified Standing

A student may be admitted to conditionally classified standing if he or she meets minimum requirements for admission to the Graduate Division but does not fully meet requirements for Classified admission to the MA, Spanish program. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Candidacy

Admission to candidacy requires favorable action by both the departmental graduate committee and the university graduate committee. All applicants meet institutional requirements as set forth in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Each candidate for the master's degree must successfully complete a final comprehensive written examination.

## Program Requirements

The minimum program for a Master of Arts in Spanish degree includes the following:

1. The 32 unit program for a Master of Spanish requires at least 20 semester units of 200-level courses. Included in these 32 units, students must take FORL 200, which satisfies the Graduation Writing Assessment Requirement (GWAR).
2. Up to 12 units of approved upper-division (100-level) courses not used to meet a requirement for the BA degree in Spanish at San José State University may be taken in the Graduate Division to complete the minimum 32-unit program.
3. Final comprehensive examination conducted in Spanish.
4. Demonstration of competence in written English.

## Master's Requirements (32 units)



## Required Courses (18 units)

- FORL 200 - Graduate Research & Writing 4 unit(s) (GWAR)

### Complete 16 units:

- SPAN 201 - Modern Spanish 4 unit(s)
- SPAN 202 - Seminar in Hispanic Civilization and Culture 4 unit(s)
- SPAN 210 - Old Spanish 4 unit(s)
- SPAN 220 - Historical Spanish Linguistics 4 unit(s)
- SPAN 225 - Spanish Dialectology 4 unit(s)
- SPAN 250 - Seminar in the Siglo de Oro 4 unit(s)
- SPAN 260 - Seminar in "Modernismo" and the Generation of '98 4 unit(s)
- SPAN 270 - Seminar in Contemporary Literature of Spain and Spanish America 4 unit(s)
- SPAN 280 - Seminar in Romanticism in Spain and Spanish America 4 unit(s)
- SPAN 298 - Special Study 1-6 unit(s)

## Electives (12 units)

A maximum of 12 units may be taken from the following:

*Elective courses must be planned in consultation with the Graduate Advisor.*

- SPAN 111 - Advanced Spanish Conversation 4 unit(s)
- SPAN 120A - Spanish Literature I 4 unit(s)
- SPAN 120B - Spanish Literature II 4 unit(s)
- SPAN 132 - Special Topics in Spanish for Careers 4 unit(s)
- SPAN 140A - Spanish American Literature 4 unit(s)
- SPAN 140B - Spanish American Literature II 4 unit(s)
- SPAN 160A - Hispanic Culture 4 unit(s)
- SPAN 160B - Hispanic Linguistics 4 unit(s)
- SPAN 160C - Hispanic Literature 4 unit(s)
- SPAN 170 - Spanish Translation: Theory and Practice 4 unit(s)
- FORL 205 - Romance Linguistics 3 unit(s)

## Culminating Experience

### Plan B (Comprehensive Exam)

Written Comprehensive Examination

## Total Units Required (32 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Chinese Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Proficiency

- CHIN 1A - Elementary Chinese *4 unit(s) (C2)*
- CHIN 1B - Elementary Chinese *4 unit(s) (C2)*

#### Minor Requirements (19-20 units)

- CHIN 25A - Intermediate Chinese *4 unit(s) (C2)*
- CHIN 25B - Intermediate Chinese *4 unit(s) (C2)*
- CHIN 101A - Advanced Chinese *4 unit(s)*
- CHIN 101B - Advanced Chinese *4 unit(s)*

#### Complete One Course From:

- CHIN 102 - Chinese Culture *4 unit(s)*
- CHIN 140 - Chinese Culture and Politics Through Literature *3 unit(s) (V)*
- RELS 144 - Chinese Traditions *3 unit(s)*

#### Total Units Required (19-20 units)

### French Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Proficiency

- FREN 1A - Elementary French *4 unit(s) (C2)*
- FREN 1B - Elementary French *4 unit(s) (C2)*

#### Minor Requirements (19-20 units)

- FREN 25A - Intermediate French: Reading *4 unit(s)* (C2)
- FREN 25B - Intermediate French: Writing *4 unit(s)* (C2)

### Complete Two Courses From:

- FREN 101A - Advanced French: Reading and Writing *4 unit(s)*
- FREN 101B - Advanced French: Written Communication *4 unit(s)*
- FREN 101C - Advanced French: Oral Communication *4 unit(s)*

### Complete One Course From:

- FREN 102B - Francophone Cultures: Through Literature and Cinema *3 unit(s)* (V)
- FREN 132 - Special Topics in French for Careers *4 unit(s)*

### Total Units Required (19-20 units)

## German Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Proficiency

- GERM 1A - Elementary German *4 unit(s)* (C2)
- GERM 1B - Elementary German *4 unit(s)* (C2)

### Minor Requirements (21 units)

- GERM 25A - Intermediate German *4 unit(s)* (C2)
- GERM 25B - Intermediate German *4 unit(s)* (C2)
- GERM 101A - Advanced German *4 unit(s)*
- GERM 101B - Advanced German *4 unit(s)*

### Complete One Course From:

- GERM 102A - German Culture until 1871 *3 unit(s)*
- GERM 102B - German Culture from 1871 to the Present *3 unit(s)*

### Total Units Required (21 units)

## International Business Minor

Students in International Business have the option to select one of the following world languages: Chinese, French, German, Japanese and Spanish for a minor. International Business Majors who are interested in selecting courses in this minor that are most appropriate for their major should contact the respective World Language Faculty Member to advise them regarding their minor. For further information please see the World Languages and Literatures website.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15-17 units)

### Choose a Language

#### Chinese (15-16 units)

- CHIN 25A - Intermediate Chinese *4 unit(s) (C2)*
- CHIN 25B - Intermediate Chinese *4 unit(s) (C2)*

#### Complete One Course From:

- CHIN 101A - Advanced Chinese *4 unit(s)*
- CHIN 101B - Advanced Chinese *4 unit(s)*

#### Complete One Course From:

- CHIN 102 - Chinese Culture *4 unit(s)*
- CHIN 140 - Chinese Culture and Politics Through Literature *3 unit(s) (V)*
- RELS 144 - Chinese Traditions *3 unit(s)*

#### French (15-16 units)

- FREN 25A - Intermediate French: Reading *4 unit(s) (C2)*
- FREN 25B - Intermediate French: Writing *4 unit(s) (C2)*

#### Complete One Course From:

- FREN 101A - Advanced French: Reading and Writing *4 unit(s)*
- FREN 101B - Advanced French: Written Communication *4 unit(s)*
- FREN 101C - Advanced French: Oral Communication *4 unit(s)*

#### Complete One Course From:

- FREN 102B - Francophone Cultures: Through Literature and Cinema *3 unit(s) (V)*
- FREN 132 - Special Topics in French for Careers *4 unit(s)*

#### German (17 units)

- GERM 25A - Intermediate German *4 unit(s) (C2)*
- GERM 25B - Intermediate German *4 unit(s) (C2)*

Complete One Course From:

- GERM 101A - Advanced German *4 unit(s)*
- GERM 101B - Advanced German *4 unit(s)*

Complete One Course From:

- GERM 102A - German Culture until 1871 *3 unit(s)*
- GERM 102B - German Culture from 1871 to the Present *3 unit(s)*

Japanese (15-16 units)

- JPN 25A - Intermediate Japanese *4 unit(s) (C2)*
- JPN 25B - Intermediate Japanese *4 unit(s) (C2)*
- JPN 101C - Advanced Conversational Japanese *4 unit(s)*

Complete One Course From:

- JPN 102A - Japanese Culture *4 unit(s)*
- JPN 107 - Japanese for Business Professionals *4 unit(s)*

Spanish (15-16 units)

Non-Heritage Speakers:

- SPAN 25A - Intermediate Spanish *4 unit(s) (C2)*
- SPAN 25B - Intermediate Spanish *4 unit(s) (C2)*

Heritage Speakers:

- SPAN 20A - Spanish for Spanish Speakers *4 unit(s)*
- SPAN 20B - Spanish for Spanish Speakers *4 unit(s)*

Complete One Course From:

- SPAN 101A - Advanced Spanish *4 unit(s)*
- SPAN 101B - Advanced Spanish *4 unit(s)*
- SPAN 111 - Advanced Spanish Conversation *4 unit(s)*

Complete One Course From:

- SPAN 102A - Spanish Culture *4 unit(s)*

- SPAN 102B - Hispanic American Culture 3 *unit(s)* (V)
- SPAN 132 - Special Topics in Spanish for Careers 4 *unit(s)*
- SPAN 160A - Hispanic Culture 4 *unit(s)*
- SPAN 170 - Spanish Translation: Theory and Practice 4 *unit(s)*

## Total Units Required (15-17 units)

## Italian Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Proficiency

- ITAL 1A - Elementary Italian 4 *unit(s)*
- ITAL 1B - Elementary Italian 4 *unit(s)*

## Minor Requirements (20 units)

- ITAL 2 - Basic Reading and Writing 3 *unit(s)*
- ITAL 101A - Advanced Italian 4 *unit(s)*
- ITAL 101B - Advanced Italian 4 *unit(s)*
- ITAL 102 - Italian Culture 3 *unit(s)*
- Six additional upper division units in Italian 6 *unit(s)*

## Total Units Required (20 units)

## Japanese Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Proficiency

- JPN 1A - Elementary Japanese 4 *unit(s)* (C2)
- JPN 1B - Elementary Japanese 4 *unit(s)* (C2)

## Minor Requirements (20 units)

- JPN 25A - Intermediate Japanese 4 *unit(s)* (C2)
- JPN 25B - Intermediate Japanese 4 *unit(s)* (C2)

- JPN 101A - Advanced Japanese 4 unit(s)
- JPN 101C - Advanced Conversational Japanese 4 unit(s)
- JPN 102A - Japanese Culture 4 unit(s)

## Total Units Required (20 units)

# Latin American Studies Minor

### Overview

The interdepartmental minor in Latin American Studies is designed to complement a wide variety of academic majors by providing knowledge of Latin American affairs, culture and politics. Courses may be selected from art, world languages and literatures, history, Chicana and Chicano studies, philosophy, political science and theatre arts.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (19 units)

*Novice high proficiency (ACTFL scale) as determined by the LAS advisor in Spanish, Portuguese or French.*

## Core Courses (10 units)

- SPAN 102B - Hispanic American Culture 3 unit(s) (V)
- Any LAS advisor-approved Latin American History Course 4 unit(s)

## Complete One Course From:

- FREN 102B - Francophone Cultures: Through Literature and Cinema 3 unit(s) (V)
- PORT 102B - Brazilian Culture 3 unit(s)
- Three courses approved by the LAS advisor from the list of electives

## Other Courses (9 units)

### Humanities

*Spanish sequence (SPAN 160A, SPAN 160B and SPAN 160C) when focus is on Latin American Studies.*

- ARTH 182A - Art of the Americas 3 unit(s)
- DANC 102 - Dance in World Cultures 3 unit(s) (V)
- SPAN 140A - Spanish American Literature 4 unit(s)
- SPAN 140B - Spanish American Literature II 4 unit(s)
- SPAN 160A - Hispanic Culture 4 unit(s)
- SPAN 160B - Hispanic Linguistics 4 unit(s)
- SPAN 160C - Hispanic Literature 4 unit(s)

## Social Sciences

- HIST 162 - Colonial Latin America *4 unit(s)*
- HIST 163 - Modern Latin America, 1800-Present *4 unit(s)*
- HIST 181 - Advanced Topics in American History *4 unit(s)*
- CCS 105 - Chicanos: United States/Mexico Relations *3 unit(s)*
- POLS 146 - Latin American Politics *4 unit(s)*
- GEOG 150 - Central and South America and the Caribbean *3 unit(s)*

## Business

- BUS3 161A - Applied Organizational Behavior *3 unit(s)*

## Total Units Required (19 units)

New courses, or courses not listed above, with content directly relevant to the study of Latin America, may be substituted for any of the electives on approval of coordinator.

## Portuguese Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Proficiency

- PORT 1A - Elementary Portuguese I *4 unit(s) (C2)*
- PORT 1B - Elementary Portuguese II *4 unit(s) (C2)*

## Minor Requirements (18 units)

- PORT 20A - Intermediate Portuguese *3 unit(s)*
- PORT 20B - Intermediate Portuguese *3 unit(s)*
- PORT 101A - Advanced Portuguese *3 unit(s)*
- PORT 101B - Advanced Portuguese *3 unit(s)*
- PORT 102A - Special Topics in Lusophone Cultures *3 unit(s)*
- PORT 102B - Brazilian Culture *3 unit(s)*

## Total Units Required (18 units)

## Spanish Minor

### University Graduation Requirements



To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Proficiency

- SPAN 1A - Elementary Spanish 4 *unit(s)* (C2)
- SPAN 1B - Elementary Spanish 4 *unit(s)* (C2)

## Minor Requirements (19-20 units)

- SPAN 25A - Intermediate Spanish 4 *unit(s)* (C2)
- SPAN 25B - Intermediate Spanish 4 *unit(s)* (C2)
- SPAN 101A - Advanced Spanish 4 *unit(s)*
- SPAN 101B - Advanced Spanish 4 *unit(s)*

## Complete One Course From:

- SPAN 102A - Spanish Culture 4 *unit(s)*
- SPAN 102B - Hispanic American Culture 3 *unit(s)* (V)

## Total Units Required (19-20 units)

### *ARAB 1A - Elementary Arabic I*

5 *unit(s)*

This course in Modern elementary Arabic is designed for students with no previous knowledge of Modern Standard Arabic. Starting with the alphabet, students will gradually learn basic oral and written communication in the target language.

**Grading:** Graded

**Note(s):** This course is not for native speakers of Arabic.

### *ARAB 25A - Intermediate Arabic I*

5 *unit(s)*

Intermediate Arabic I is designed for students who have completed at least two semesters (one year) of Arabic in an academic setting and have knowledge of basic grammatical features of Arabic.

**Prerequisite(s):** ARAB 1A, ARAB 001B or equivalent or SJSU placement exam.

**Grading:** Graded

### *CHIN 1A - Elementary Chinese*

4 *unit(s)*

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*CHIN 1B - Elementary Chinese*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** CHIN 1A (or equivalent).

**Grading:** Graded

*CHIN 25A - Intermediate Chinese*

4 unit(s)

Development of basic skills in the use of Mandarin; preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** 8 units of college Chinese (or equivalent)

**Grading:** Graded

*CHIN 25B - Intermediate Chinese*

4 unit(s)

Continuation of CHIN 025A. Preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** 12 units of college Chinese (or equivalent)

**Grading:** Graded

*CHIN 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*CHIN 101A - Advanced Chinese*

4 unit(s)

Readings related to culture, discussion, syntax and composition. May be repeated once for credit.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Four semesters of college Chinese (or equivalent).

**Grading:** Graded

**Note(s):** Year course.

*CHIN 101B - Advanced Chinese*

4 unit(s)

Readings related to culture, discussion, syntax and composition. May be repeated once for credit.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** 20 units of college Chinese (or equivalent)

**Grading:** Graded

**Note(s):** Year course.

*CHIN 102 - Chinese Culture*

4 unit(s)

Traditional Chinese culture in light of contemporary values. Ideographs, folk tales, festivals, creeds and customs, myths and superstitions, opera and the arts, women, the art of living.

**Grading:** Graded

**Note(s):** Taught in English.

*CHIN 110 - Structure of the Chinese Language*

4 unit(s)

Introduction to study of Chinese dialects and Mandarin grammar from historical viewpoint, with reference to early development and present diversity. Emphasis on the writing system and areal features of the language.

**Prerequisite(s):** CHIN 25B or instructor consent.

**Grading:** Graded

*CHIN 120A - Modern Chinese Literature (1900-1949)*

4 unit(s)

Literary movements and major works of Chinese narrative, poetry and drama from 1900 to 1949.

**Prerequisite(s):** CHIN 101B (or equivalent)

**Grading:** Graded

*CHIN 120B - Introduction to Classical Chinese Literature*

4 unit(s)

Stylistic and structural characteristics of classical Chinese through selected readings in various texts.

**Prerequisite(s):** CHIN 25B or instructor consent.

**Grading:** Graded

*CHIN 130 - Readings in Chinese Culture*

4 unit(s)

Readings in selected aspects of Chinese culture, e.g., philosophical, social, political, historical. Texts may be chosen from scholarly essays, newspaper articles or creative narrative. May be repeated when content changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** CHIN 101B or instructor consent  
**Grading:** Graded

*CHIN 132 - Special Topics in Chinese for Careers*

4 unit(s)

Chinese 132 provides a focus on the use of Chinese for various professions, and examines in depth selected topics in regard to Chinese in the professional world. Course repeatable when content changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** CHIN 25B or instructor consent.  
**Grading:** Graded

*CHIN 140 - Chinese Culture and Politics Through Literature*

3 unit(s)

Exploration of the interaction between culture, politics and literature as reflected in the contemporary (post-1949) narrative, poetry and drama of China, Taiwan and Hong Kong.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Taught in English.

*CHIN 180 - Individual Studies in Chinese*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** Upper division standing in Chinese (or equivalent) and instructor consent.  
**Grading:** Credit/No Credit

*CHIN 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FLED 184Y - Student Teaching II - Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom teaching or field teaching in appropriate single subjects, grades K-12 and related teaching activities and seminar.

**Prerequisite(s):** Joint approval of major and Education departments.  
**Grading:** Credit/No Credit

*FLED 184Z - Student Teaching III - Classroom Teaching*

4-6 unit(s)

See FLED 184Y for course description.

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*FLED 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FLED 285 - Student Teaching Seminar In Foreign Language Education*

1 unit(s)

As a companion course to the Phase II/III student teaching experience in the Single Subject Credential program in Chinese, French or Spanish at San Jose State University, the seminar provides a framework and support for the Performance Assessment for California Teachers (PACT).

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** EDSC 184X.

**Corequisite(s):** FLED 184Y/FLED 184Z.

**Grading:** Credit/No Credit

*FLED 380 - Teaching Foreign Languages*

3 unit(s)

Theory and practice.

**Prerequisite(s):** College approval and competence in at least one foreign language.

**Grading:** Graded

*FORL 25 - World Cultures Through Literature and Cinema*

6 unit(s)

Introduction to contemporary non-English speaking cultures taught online in English; Specialized modules highlight cultural features, interactions, and contributions of culture groups associated with five world languages (initially Chinese, French, German, Japanese, Spanish) examined through literature and films. Fulfills GE C1/C2

*Satisfies C1 + C2: Arts and Letters*

**Grading:** Graded

*FORL 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FORL 96A - Elementary Assyrian Culture and Language*

3 unit(s)

This course is designed for heritage or non-native speakers of the Assyrian language with limited speaking fluency and no writing or reading skills. Starting with the alphabet, students will learn reading and writing skills, and acquire elementary oral communication. (Special Session only).

**Grading:** Graded

*FORL 100W - Writing Workshop*

3 unit(s)

Advanced composition with practice in research and development of writing skills using a variety of literary and cultural concepts. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*FORL 121 - Introduction to Comparative Literature*

4 unit(s)

Critical approaches, reference sources, problems of translation.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*FORL 122 - Topics in Comparative World Literature*

4 unit(s)

An exemplary theme as treated in various literatures in different languages, e.g., war, love, freedom, religious experience. May be repeated when course content changes.

**Prerequisite(s):** One year of college level foreign language or instructor consent.

**Grading:** Graded

*FORL 126 - Holocaust Literature*

3 unit(s)

Survey of literature written by survivors or witnesses of the Holocaust, the destruction of European Jewry during World War II, focusing upon diaries, memoirs, fiction, and occasionally poetry and drama. Writers may include Elie Wiesel, Primo Levi, Anne Frank, Charlotte Delbo.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*FORL 150 - Learning a World Language*

4 unit(s)

Introduction to the field of second language acquisition with special attention to adult second language learning. Service learning required. Taught in English.

**Grading:** Graded

*FORL 180 - Individual Studies in World Languages and Literatures*

3-6 unit(s)

FORL 180 is designed for individual studies in languages taught at SJSU that are not part of a major or minor program, such as Arabic, Hebrew, Persian/Farsi or Vietnamese.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper division standing, instructor approval

**Grading:** Mandatory CR/NC/RP

*FORL 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FORL 200 - Graduate Research & Writing*

4 unit(s)

Techniques of writing research papers and theses. Includes bibliographical sources and style sheets. Comprehensive study of literary genres and techniques for critique of these genres. Emphasis on organization of materials.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*FORL 205 - Romance Linguistics*

3 unit(s)

An introduction to the development of the Romance languages from Vulgar Latin: phonology, morphology, syntax, lexical growth; emergence of dialects. Preparatory to historical linguistics of any Romance language.

**Prerequisite(s):** Fundamental knowledge of Latin and a bachelor's degree (or equivalent) in at least one Romance language.

**Grading:** Graded

*FORL 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FORL 298 - Individual Studies in World Languages and Literatures*

1-6 unit(s)

Directed study (research projects) in specified fields not covered by offered courses. Student-initiated in-depth study of a mutually agreeable topic conducted under faculty guidance.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor approval, graduate standing.

**Grading:** Mandatory CR/NC/RP

*FREN 1A - Elementary French*

4 unit(s)

Basic structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*FREN 1B - Elementary French*

4 unit(s)

Basic structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** FREN 1A (or equivalent).

**Grading:** Graded

*FREN 1X - Elementary French Individualized*

1-5 unit(s)

Self-paced individualized instruction.

**Grading:** Graded

*FREN 1Y - Elementary French Individualized*

1-5 unit(s)

Self-paced individualized instruction.

**Prerequisite(s):** 5 units of FREN 1A and FREN 1X (or equivalent).

**Grading:** Graded

*FREN 25A - Intermediate French: Reading*

4 unit(s)

Intensive training in reading authentic texts of a broad variety of genres in French to increase the students' proficiency



from ACTFL Low Intermediate to Mid and High Intermediate levels.

*Satisfies C2: Letters*

**Prerequisite(s):** One Year of college-level French (or equivalent or SJSU placement exam).

**Grading:** Graded

*FREN 25B - Intermediate French: Writing*

*4 unit(s)*

Intensive practice in French expository writing to increase the students' written proficiency from ACTFL Low Intermediate to Mid and High levels. Review of major grammatical rules, vocabulary development and introduction to translation.

*Satisfies C2: Letters*

**Grading:** Graded

*FREN 25C - Intermediate French: Oral Communication*

*4 unit(s)*

Practice in pronunciation, listening and speaking in formal and informal situations. Introduction to Francophone cultures and linguistic variations. May be repeated twice for credit.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Two semesters of college French (or equivalent).

**Grading:** Graded

*FREN 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*FREN 101A - Advanced French: Reading and Writing*

*4 unit(s)*

Increase proficiency in reading/writing from intermediate high to advanced. Gain competence in reading abstract and linguistically complex materials (fiction, non fiction and creative). Improve ability to express self in formal and informal writing on practical, social or professional topics.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Two years of college French or equivalent.

**Grading:** Graded

*FREN 101B - Advanced French: Written Communication*

*4 unit(s)*

Increase proficiency in reading/writing from advanced to advanced plus level. Gain competence in reading materials that are abstract and linguistically complex (literary genres). Improve ability to write about topics with precision and describe, narrate and support point of view.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Two years of college French or equivalent.  
**Grading:** Graded

*FREN 101C - Advanced French: Oral Communication*

*4 unit(s)*

Ability to participate effectively in most formal and informal exchanges on practical, social, professional and abstract topics. Express and support opinions and hypothesize using native-like discourse strategies. May be repeated for credit, but only 3 units apply to minor or major.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Two years of college French or equivalent.  
**Grading:** Graded

*FREN 102A - French Culture*

*4 unit(s)*

History, physical and cultural geography, fine/folk art and daily life of France up to the time of the Revolution.

**Prerequisite(s):** 20 units of college French (or equivalent).  
**Grading:** Graded

*FREN 102B - Francophone Cultures: Through Literature and Cinema*

*3 unit(s)*

History, physical and cultural geography, fine/folk art and daily life of France and French-speaking countries. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Online - taught in English.

*FREN 102C - French Culture*

*4 unit(s)*

French culture from the Revolution to the 21st Century.

**Prerequisite(s):** 20 units of college French (or equivalent).  
**Grading:** Graded

*FREN 105 - Advanced Grammar: Phonetic Analysis*

4 unit(s)

Contrastive analysis of French and English sound systems and their practical application to pronunciation. Intensive conversation and reading of poetry and plays. Language laboratory.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Four semesters of college French (or equivalent).

**Grading:** Graded

*FREN 110 - Advanced Grammar: Grammatical Analysis*

4 unit(s)

Structural analysis. Comparison of morphological and syntactical patterns of English and French. Course is repeatable for a total of 6 units.

**Prerequisite(s):** FREN 101B (or equivalent).

**Grading:** Graded

*FREN 120A - French Literature from the Middle Ages to 1600*

4 unit(s)

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** FREN 101B or instructor consent.

**Grading:** Graded

*FREN 120B - French Literature of the Seventeenth through the Eighteenth Centuries*

4 unit(s)

May be repeated for credit when content changes.

**Prerequisite(s):** FREN 101B (or equivalent).

**Grading:** Graded

*FREN 132 - Special Topics in French for Careers*

4 unit(s)

Provides a focus on the use of the French language for various professions, and examines in depth selected topics in regard to French in the professional world. Repeatable for up to 8 units when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** 4 semesters of French or instructor consent.

**Grading:** Graded

*FREN 140A - French Literature of the Nineteenth Century*

4 unit(s)

May be repeated for credit when content changes.

**Prerequisite(s):** FREN 101B (or equivalent).

**Grading:** Graded

*FREN 140B - French Literature 20th-21st Centuries*

4 unit(s)

May be repeated for credit when content changes.

**Prerequisite(s):** FREN 101B (or equivalent).

**Grading:** Graded

*FREN 160 - Masters of French Literature*

4 unit(s)

Significant periods or genres. May be repeated for credit when content changes.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Two courses from 120, 140 series (or equivalent).

**Grading:** Graded

*FREN 170 - Translation and Comparative Stylistics*

4 unit(s)

Theory and practice of translation for various purposes including literary, scientific, and professional ones. Comparative stylistics of English and French.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** FREN 110 (or equivalent).

**Grading:** Graded

*FREN 180 - Individual Studies in French*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** Upper division standing in French (or equivalent preparation with grade of "B") and instructor consent.

**Grading:** Credit/No Credit

*FREN 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*FREN 202 - Seminar in French/Francophone Civilizations and Culture*

3 unit(s)

Research projects exploring the character of France, analysis of French culture and institutions or the appreciation of the cultural richness and diversity of Francophone areas throughout the world, highlighting differences among French-speaking peoples and countries.

**Grading:** Graded

*FREN 292 - Intern'l Prgm Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*FREN 298 - Special Study*

1-6 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*FREN 299 - Master's Thesis or Project*

3-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the MA degree or advisor consent.

**Grading:** Mandatory CR/NC/RP

*GERM 1A - Elementary German*

4 unit(s)

Basic structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*GERM 1B - Elementary German*

4 unit(s)

Basic structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** GERM 1A or equivalent.

**Grading:** Graded

*GERM 25A - Intermediate German*

4 unit(s)

Review of basic grammar expansion of vocabulary and communication skills in the context of culture.

*Satisfies C2: Letters.*

**Prerequisite(s):** One year of college-level German (or equivalent or SJSU placement exam).

**Grading:** Graded

*GERM 25B - Intermediate German*

4 unit(s)

Introduction of complex grammatical features, continued expansion of vocabulary and communication skills in the

context of culture.

*Satisfies C2: Letters.*

**Prerequisite(s):** Three semesters of college German or equivalent.

**Grading:** Graded

*GERM 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*GERM 101A - Advanced German*

4 unit(s)

Readings, oral discussion, syntax and composition.

*Misc/Lab: Year course.*

**Prerequisite(s):** Four semesters of college German (or equivalent).

**Grading:** Graded

*GERM 101B - Advanced German*

4 unit(s)

Readings, oral discussion, syntax and composition.

*Misc/Lab: Year course.*

**Prerequisite(s):** Four semesters of college German (or equivalent).

**Grading:** Graded

*GERM 102A - German Culture until 1871*

3 unit(s)

Development of society, civilization and culture in German-speaking countries until 1871, including aspects of geography, political and intellectual history, fine art and cultural anthropology.

**Prerequisite(s):** Four semesters of college German (or equivalent).

**Grading:** Graded

*GERM 102B - German Culture from 1871 to the Present*

3 unit(s)

Development of society, civilization and culture in German-speaking countries from 1871 to the present, including aspects of geography, political and intellectual history, fine art and cultural anthropology.

**Prerequisite(s):** Four semesters of college German (or equivalent).

**Grading:** Graded

*GERM 180 - Individual Studies in German*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** Upper division standing in German (or equivalent with grade of "B") and instructor consent.

**Grading:** Credit/No Credit

*GERM 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*GRK 105A - Classical and Koine Greek*

3 unit(s)

Morphology and syntax with emphasis on the Attic dialect. Major dialects and historic linguistic and literary foundations of Koine.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*GRK 105B - Classical and Koine Greek*

3 unit(s)

Morphology and syntax with emphasis on the Attic dialect. Major dialects and historic linguistic and literary foundations of Koine.

**Prerequisite(s):** GRK 105A (or equivalent).

**Grading:** Graded

*GRK 180 - Individual Studies in Greek*

1-3 unit(s)

By arrangement.

**Prerequisite(s):** Upper division standing in Greek (or equivalent) and instructor consent.

**Grading:** Credit/No Credit

*HEBR 10A - Elementary Hebrew*

3 unit(s)

Basic structure of the language in the context of culture.

**Grading:** Graded

*HEBR 10B - Elementary Hebrew*

3 unit(s)

Basic structure of the language in the context of culture.

**Prerequisite(s):** HEBR 10A (or equivalent).

**Grading:** Graded

*HEBR 10X - Elementary Hebrew- Individual Learning*

1-3 unit(s)

Basic structure of the language in the context of culture.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*HEBR 15A - Intermediate Hebrew*

3 unit(s)

Developing speaking skills.

**Prerequisite(s):** HEBR 10A and HEBR 10B (or equivalent).

**Grading:** Graded

*HEBR 15B - Intermediate Hebrew*

3 unit(s)

Developing speaking skills.

**Prerequisite(s):** HEBR 10A and HEBR 10B (or equivalent).

**Grading:** Graded

*HEBR 15X - Intermediate Hebrew- Individual Learning*

1-3 unit(s)

Developing speaking skills.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*HEBR 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*HEBR 102A - Advanced Hebrew*

3 unit(s)

Readings, grammar, discussion and composition.

**Prerequisite(s):** Four semesters of college Hebrew (or equivalent).

**Grading:** Graded

*HEBR 102B - Advanced Hebrew*

3 unit(s)

Readings, grammar, discussion and composition.



**Prerequisite(s):** 12 units of college Hebrew (or equivalent).

**Grading:** Graded

*HEBR 102X - Advanced Hebrew- Individual Learning*

1-3 unit(s)

Readings, grammar, discussion and composition.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*HEBR 192 - International Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ITAL 1A - Elementary Italian*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters.*

**Grading:** Graded

*ITAL 1B - Elementary Italian*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters.*

**Prerequisite(s):** ITAL 1A (or equivalent).

**Grading:** Graded

*ITAL 1X - Elementary Italian - Individualized Learning*

1-5 unit(s)

Alternate to ITAL 1A and ITAL 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

*Course may be repeated for credit for up to 5 units.*

**Grading:** Graded

*ITAL 1Y - Elementary Italian - Individualized Learning*

1-5 unit(s)

Alternate to ITAL 1A and ITAL 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** 5 units of ITAL 1A, ITAL 1X (or equivalent).

**Grading:** Graded

*ITAL 2 - Basic Reading and Writing*

3 unit(s)

Sentence structure and idiomatic usage in compositions, translations and simple essays.

**Prerequisite(s):** 2 semesters of college Italian (or equivalent).

**Grading:** Graded

*ITAL 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ITAL 101A - Advanced Italian*

4 unit(s)

Readings, discussion, syntax and composition. When content changes may be repeated.

**Prerequisite(s):** Three semesters of college Italian (or equivalent or SJSU placement exam) or instructor consent.

**Grading:** Graded

*ITAL 101B - Advanced Italian*

4 unit(s)

Readings, discussion, syntax and composition. When content changes may be repeated.

**Prerequisite(s):** Three semesters of college Italian (or equivalent) or instructor consent.

**Grading:** Graded

*ITAL 102 - Italian Culture*

3 unit(s)

Culture and civilization of Italy. Dante, Manzoni, Moravia, Quasimodo, Montale, etc. When content changes may be repeated.

**Prerequisite(s):** Four semesters of college Italian (or equivalent).

**Grading:** Graded

*ITAL 180 - Individual Studies in Italian*

1-3 unit(s)

Individual work by arrangement.

**Grading:** Credit/No Credit

*ITAL 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*JPN 1A - Elementary Japanese*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*JPN 1B - Elementary Japanese*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** JPN 1A (or equivalent).

**Grading:** Graded

*JPN 25A - Intermediate Japanese*

4 unit(s)

Continuation of JPN 1B. Preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** One Year of college-level Japanese (or equivalent or SJSU placement exam).

**Grading:** Graded

*JPN 25B - Intermediate Japanese*

4 unit(s)

Continuation of JPN 25A. Preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** Three semesters of college Japanese (or equivalent).

**Grading:** Graded

*JPN 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*JPN 101A - Advanced Japanese*

4 unit(s)

Readings, oral discussion, study of syntax and composition.

**Prerequisite(s):** Four semesters of college Japanese (or equivalent).

**Grading:** Graded

*JPN 101B - Advanced Japanese*

4 unit(s)

Readings, oral discussion, study of syntax and composition.

**Prerequisite(s):** Four semesters of college Japanese (or equivalent).

**Grading:** Graded

*JPN 101C - Advanced Conversational Japanese*

4 unit(s)

This course focuses on politeness aspects of Japanese language that appear in L19, 20, and 23 of Genki textbook II and heightens conversational competence to intermediate high in ACTFL through project works.

**Prerequisite(s):** JPN 25B

**Grading:** Graded

*JPN 102A - Japanese Culture*

4 unit(s)

History, geography, fine art and daily life of Japan. May be repeated when content changes.

*Course is repeatable for up to 8 units.*

**Prerequisite(s):** JPN 25B.

**Grading:** Graded

*JPN 102B - Local and Minority Cultures in Japan*

3 unit(s)

Examines how identities and cultures of the ethnic minorities of Japan, such as Okinawans, Amamians, Ainus and Koreans, changed over time from Edo era to present, interacting with majority groups mainland Japan and the U.S. under their political controls.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*JPN 103 - Japanese Ideography and Calligraphy*

4 unit(s)

Ideographs and Kana-syllabaries in their historical contexts-meaning, imagery, socio-anthropological backgrounds, formation and use of modern Japanese. Studio practice.

**Prerequisite(s):** JPN 101C or equivalent.

**Grading:** Graded

*JPN 105 - Media Japanese*

*4 unit(s)*

Examination of language that appears in Japanese media such as newspapers, Internet news, and TV news to enhance four language skills (listening, reading, speaking and writing) to advanced level.

**Prerequisite(s):** JPN 101C or equivalent

**Grading:** Graded

*JPN 107 - Japanese for Business Professionals*

*4 unit(s)*

Advanced Japanese course for specific (business) purposes. It will acquaint students with practical vocabulary, a wide range of language structures, business manners, and business customs for developing communication skills useful in conducting business in Japanese.

**Prerequisite(s):** JPN 101C or equivalent.

**Grading:** Graded

*JPN 110 - Japanese Linguistics*

*4 unit(s)*

Structural analysis of Japanese from historical as well as descriptive perspectives and its application to distinct Japanese social and communicative behaviors.

**Prerequisite(s):** JPN 101C or equivalent.

**Grading:** Graded

*JPN 120 - Japanese Literature and Translation*

*4 unit(s)*

Examination of Modern Japanese Manga Literature and Light novels and their translation to heighten learners reading and translation skills.

**Prerequisite(s):** JPN 101C or equivalent.

**Grading:** Graded

*JPN 130 - Readings in Japanese Culture*

*4 unit(s)*

Readings from contemporary texts (including scholarly essays, newspapers and narrative) on various aspects of Japanese culture.

**Prerequisite(s):** JPN 101C or equivalent.

**Grading:** Graded

*JPN 140 - Japanese Drama and Lyrics*

*4 unit(s)*

Interpretation of Japanese drama and lyrics from Showa to the present to foster advanced level of Japanese language competence. Analysis of stylistic features, Japanese people and society's socio-cultural values and their historical backgrounds.

**Prerequisite(s):** JPN 101C or equivalent

**Grading:** Graded

*JPN 150 - Japanese Narratives and Life stories*

4 unit(s)

Examination of Japanese narratives (folk tales) and life stories that represent Japanese society and archetype of Japanese people's psychology.

**Prerequisite(s):** JPN 101C or equivalent

**Grading:** Graded

*JPN 160 - Special Topics in Japanese Studies*

3 unit(s)

A 25-day summer program that focuses on Japanese language, culture, and history. Explores Japanese culture and history through culture instruction conducted at cultural centers in Uji-city, Kyoto and field trips to historical sites and Japanese companies in Kyoto and other cities such as Osaka, Nara, Hiroshima, and Tokyo.

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*JPN 180 - Individual Studies in Japanese*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** 11 units of upper division Japanese (or equivalent with grade of "B") and instructor consent.

**Grading:** Credit/No Credit

*JPN 192 - Int'l Program Studies*

1-14 unit(s)

**Grading:** Mixed Grading

*LATN 1A - Elementary Latin*

3 unit(s)

Latin grammar, syntax and readings.

**Grading:** Graded

**Note(s):** Year course.

*LATN 1B - Elementary Latin*

3 unit(s)

Latin grammar, syntax and readings.

**Grading:** Graded

**Note(s):** Year course.

*LATN 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*LATN 180 - Individual Studies in Latin*

1-3 unit(s)

Individual work by arrangement.

**Prerequisite(s):** Upper Division Standing in Latin and instructor consent.

**Grading:** Credit/No Credit

*PERS 1A - Elementary Persian Culture and Language I*

3 unit(s)

An elementary level course, designed for students with no or little previous knowledge of Persian language and meant to be an introduction to Persian cultures.

**Grading:** Graded

*PERS 1B - Elementary Persian Language B*

3 unit(s)

This course is a continuation of PERS 96A (PERS 1A) and is designed for students who have some basic knowledge of Persian through self-training, travel, or have completed a course at an academic institution. Emphasis is placed in further developing the students' knowledge of culture and language and across the Persian-speaking world. (Special Session only).

**Prerequisite(s):** PERS 096A or instructor consent.

**Grading:** Graded

*PERS 25A - Intermediate Persian Culture and Language*

3 unit(s)

This course is designed for students with some previous knowledge of Persian, either from classroom or as a heritage speaker. Various language activities such as reading, writing, and, listening comprehension will be offered through the introduction of classical Persian poetry.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*PERS 25B - Intermediate Persian Culture and Language*

3 unit(s)

This course is a continuation of PERS 25A and is designed for students with previous knowledge of Persian, either from classroom or as a heritage speaker. Various language activities such as reading, writing, and, listening comprehension will be introduced while surveying the history and culture of the Persian speaking world across time and place, with a focus on Iran, from its roots in antiquity to the modern day, advancing students' knowledge of

Persian language and culture. Themes include the survey of history, socio-political systems, and textual and visual cultural traditions of the Persian society, which have made this culture a unique one for centuries. This course is conducted in Persian while the reading assignments are in both English and Persian.

**Prerequisite(s):** PERS 25A or instructor consent.

**Grading:** Graded

*PORT 1A - Elementary Portuguese I*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*PORT 1B - Elementary Portuguese II*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** PORT 1A (or equivalent).

**Grading:** Graded

*PORT 1X - Elementary Portuguese - Individualized Learning*

1-5 unit(s)

Alternate to PORT 1A and PORT 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

*Course may be repeated for credit for up to 5 units.*

**Grading:** Graded

*PORT 1Y - Elementary Portuguese - Individualized Learning*

1-5 unit(s)

Alternate to PORT 1A and PORT 1B. Student sets own rate of progress. May be repeated for a 5 unit maximum.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** 5 units of PORT 1A, PORT 1X or equivalent).

**Grading:** Graded

*PORT 20A - Intermediate Portuguese*

3 unit(s)

Reading, sentence structure and idiomatic usage in conversation and simple essays.

**Prerequisite(s):** 2 semesters of college Portuguese (or equivalent or SJSU placement exam).

**Grading:** Graded



*PORT 20B - Intermediate Portuguese*

3 unit(s)

A continuation of PORT 20A.

**Prerequisite(s):** 3 semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 20X - Intermediate Portuguese - Individualized Learning*

1-3 unit(s)

Alternate to PORT 20A. Student sets own rate of progress. May be repeated for a 3 unit maximum.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** 2 semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 20Y - Intermediate Portuguese - Individualized Learning*

1-3 unit(s)

Alternate to PORT 20B. Student sets own rate of progress. May be repeated for a 3 unit maximum.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** 3 semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*PORT 101A - Advanced Portuguese*

3 unit(s)

Reading, discussion, morphology, syntax and composition.

**Prerequisite(s):** Four semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 101B - Advanced Portuguese*

3 unit(s)

Reading, discussion, morphology, syntax and composition.

**Prerequisite(s):** Four semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 102A - Special Topics in Lusophone Cultures*

3 unit(s)

Portuguese 102A provides students with a variety of aspects of the culture and civilization including geography, history, literature, customs, music, sports, media etc. of the different countries of the Portuguese Speaking world (Portugal, Cape Verde, Guinea-Bissau, Sao Tome and Principe, Angola, Mozambique, and East Timor. Repeatable for up to 9 units of credit with content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Four semesters of college Portuguese (or equivalent).

**Grading:** Graded

*PORT 102B - Brazilian Culture*

3 unit(s)

History, geography, fine art and daily life in Brazil.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*PORT 180 - Individual Studies in Portuguese*

1-3 unit(s)

By arrangement.

**Prerequisite(s):** Upper division standing in Portuguese (or equivalent) and instructor consent.

**Grading:** Credit/No Credit

*PORT 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*SPAN 1A - Elementary Spanish*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Grading:** Graded

*SPAN 1B - Elementary Spanish*

4 unit(s)

Basic skills and structure of the language in the context of culture.

*Satisfies C2: Letters*

**Prerequisite(s):** SPAN 1A (or equivalent).

**Grading:** Graded

*SPAN 3 - Special Topics in Practical Spanish*

*4 unit(s)*

Spanish 003 is a Special Topics course focused on the practical application of basic Spanish in a number of professional fields such as Health Care, Social Services, Hospitality Management, and Law Enforcement. Repeatable for credit when content changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** 9 units of college Spanish (or equivalent).

**Grading:** Graded

**Note(s):** Not accepted as preparation for advanced courses. Native speakers see General Information section.

*SPAN 4A - Basic Spanish I*

*4 unit(s)*

An Internet-based or on-site course in practical Spanish for use in a variety of professional and everyday activities. For beginners and those who need to improve conversational skills.

**Grading:** Graded

*SPAN 4B - Basic Spanish II*

*4 unit(s)*

An Internet-based or on-site course course in practical Spanish for use in a variety of professional and everyday activities. A continuation of SPAN 4A for those who need to improve communication skills.

**Grading:** Graded

**Note(s):** No credit toward Spanish major.

*SPAN 20A - Spanish for Spanish Speakers*

*4 unit(s)*

Focus on written Spanish. Study of grammar and orthography and development of reading and writing skills. For students whose first or home language is Spanish.

**Prerequisite(s):** Knowledge of spoken Spanish and instructor consent.

**Grading:** Graded

*SPAN 20B - Spanish for Spanish Speakers*

*4 unit(s)*

Continuation of SPAN 20A. For students whose first or home language is Spanish. Focus on development of reading and writing skills.

**Prerequisite(s):** SPAN 20A or instructor consent.

**Grading:** Graded

*SPAN 25A - Intermediate Spanish*

*4 unit(s)*

Continuation of SPAN 1B. Preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** One Year of college-level Spanish (or equivalent or SJSU Placement Exam).  
**Grading:** Graded

*SPAN 25B - Intermediate Spanish*

*4 unit(s)*

Continuation of SPAN 25A. Preparation for advanced courses in the language.

*Satisfies C2: Letters*

**Prerequisite(s):** Three semesters of college Spanish (or equivalent).  
**Grading:** Graded

*SPAN 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*SPAN 101A - Advanced Spanish*

*4 unit(s)*

Readings, oral discussion, syntax and composition.

**Prerequisite(s):** Four semester of college Spanish (or equivalent).  
**Grading:** Graded

*SPAN 101B - Advanced Spanish*

*4 unit(s)*

Readings, oral discussion, syntax and composition.

**Prerequisite(s):** Four semesters of college Spanish (or equivalent).  
**Grading:** Graded

*SPAN 102A - Spanish Culture*

*4 unit(s)*

History, geography, fine art and daily life of Spain.

**Prerequisite(s):** Four semesters of college Spanish (or equivalent).  
**Grading:** Graded

*SPAN 102B - Hispanic American Culture*

*3 unit(s)*

History, geography, fine art and daily life of Hispanic America. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SPAN 105 - Spanish Phonology*

*4 unit(s)*

Contrastive analysis of Spanish and English sound systems and application to pronunciation. Language laboratory.

**Prerequisite(s):** Four semesters of college Spanish (or equivalent).

**Grading:** Graded

*SPAN 110 - Spanish Morphology and Syntax*

*4 unit(s)*

Structural analysis. Comparison of morphological and syntactical patterns of English and Spanish.

**Prerequisite(s):** SPAN 101B (or equivalent).

**Grading:** Graded

*SPAN 111 - Advanced Spanish Conversation*

*4 unit(s)*

Development of skills for group discussion, dialogue and individual oral presentations on topics pertaining to everyday life, the professions, social problems and the arts. May be repeated once for credit, but only 3 units apply to major.

**Prerequisite(s):** 4 semesters of college Spanish or advisor consent.

**Grading:** Graded

**Note(s):** Native speakers see General Information section.

*SPAN 115 - Introduction to Literary Studies in Spanish*

*4 unit(s)*

Introduction to literary studies in Spanish with readings from Spain and Spanish America. Overview of genres and fundamental concepts of criticism.

**Prerequisite(s):** SPAN 101B or instructor consent.

**Grading:** Graded

*SPAN 120A - Spanish Literature I*

*4 unit(s)*

Notable works from beginning to present.

**Prerequisite(s):** SPAN 101B, SPAN 102A or SPAN 102B (or equivalent).

**Grading:** Graded

*SPAN 120B - Spanish Literature II*

4 unit(s)

Notable works from beginning to present.

**Prerequisite(s):** SPAN 101B, SPAN 102A or SPAN 102B (or equivalent).

**Grading:** Graded

*SPAN 132 - Special Topics in Spanish for Careers*

4 unit(s)

Course will focus on the use of the Spanish language for various professions, and examines in depth selected topics in regard to Spanish in the professional world. Course repeatable when content varies.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Two years of Spanish or instructor consent.

**Grading:** Graded

*SPAN 140A - Spanish American Literature*

4 unit(s)

Notable works from beginning to present.

**Prerequisite(s):** SPAN 101B, SPAN 102A and SPAN 102B (or equivalent).

**Grading:** Graded

*SPAN 140B - Spanish American Literature II*

4 unit(s)

Notable works from beginning to present.

**Prerequisite(s):** SPAN 101B, SPAN 102A and SPAN 102B (or equivalent).

**Grading:** Graded

*SPAN 160A - Hispanic Culture*

4 unit(s)

Cultural phenomena, both historical and contemporary, of Spanish-speaking countries. Repeatable when topic changes for up to 8 units.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** SPAN 101B (or equivalent).

**Grading:** Graded

*SPAN 160B - Hispanic Linguistics*

4 unit(s)

Spanish as spoken in diverse Hispanic cultures. May be repeated for credit when content changes.

**Prerequisite(s):** SPAN 101B (or equivalent).  
**Grading:** Graded

*SPAN 160C - Hispanic Literature*

4 unit(s)  
Outstanding authors or movements of Spain and Latin America.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** SPAN 101B (or equivalent).  
**Grading:** Graded

*SPAN 170 - Spanish Translation: Theory and Practice*

4 unit(s)  
Theory and practice of translation for various purposes including literary, scientific, and professional ones. Comparative stylistics of English and Spanish.

**Prerequisite(s):** SPAN 101B.  
**Grading:** Graded

*SPAN 180 - Individual Studies in Spanish*

1-3 unit(s)  
Individual work by arrangement.

**Prerequisite(s):** Upper division standing in Spanish (or equivalent with grade of "B") and instructor consent.  
**Grading:** Credit/No Credit

*SPAN 192 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*SPAN 201 - Modern Spanish*

4 unit(s)  
Analysis of the evolving patterns of syntax and idiomatic construction in the Spanish language of the twentieth and twenty-first centuries. May be repeated for credit when content changes.

*Repeatable for credit.*

**Grading:** Graded

*SPAN 202 - Seminar in Hispanic Civilization and Culture*

4 unit(s)  
A comprehensive study of one or more Spanish-speaking countries. A: Andean countries (Colombia, Ecuador, Peru and Bolivia). B: Caribbean (Cuba, Dominican Republic, Puerto Rico and Caribbean coasts of Venezuela, Colombia and the nations of Central America). C: Mexico. D: River Plate Region (Argentina, Chile, Paraguay and Uruguay). E: Spain. May be repeated for credit when course content changes.

*Repeatable for credit.*

**Grading:** Graded

*SPAN 210 - Old Spanish*

*4 unit(s)*

Analysis of the style and structure of medieval Spanish through selected readings. A fundamental knowledge of Latin is required.

**Grading:** Graded

**Note(s):** Alternate years, or on demand.

*SPAN 220 - Historical Spanish Linguistics*

*4 unit(s)*

An inquiry into the growth of the Spanish language in Spain and Latin America from the twelfth century to modern times.

**Grading:** Graded

*SPAN 225 - Spanish Dialectology*

*4 unit(s)*

Regional, social, historical, generational dialects that shape Spanish. Research involves readings on dialectology and sociolinguistics, learning to identify characteristics of Spanish dialects and exploring the implications of language contact, linguistic borrowing and code-switching.

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*SPAN 250 - Seminar in the Siglo de Oro*

*4 unit(s)*

The works of Cervantes, principal dramatists of the Comedia and other significant authors of the Golden Age. May be repeated for credit when content changes.

*Repeatable for credit.*

**Grading:** Graded

*SPAN 260 - Seminar in "Modernismo" and the Generation of '98*

*4 unit(s)*

A: Origin and development of the poetry and prose of the Modernista movement in Latin America. B: Examination of the spiritual and intellectual crisis created in Spain by the 1898 Spanish-American War. Representative works of Unamuno, Baroja, Azorin, Valle-Inclan and Antonio Machado. May be repeated for credit when content changes.

*Repeatable for credit.*



**Grading:** Graded

*SPAN 270 - Seminar in Contemporary Literature of Spain and Spanish America*

4 unit(s)

In-depth study of representative Latin American and Spanish authors of the twentieth and twenty-first centuries. May be repeated for credit when content changes.

*Repeatable for credit.*

**Grading:** Graded

*SPAN 280 - Seminar in Romanticism in Spain and Spanish America*

4 unit(s)

Philosophical and artistic aspects of the movement, studied through representative Latin American or Spanish works in all literary genres. Focus will alternate each time the course is offered. May be repeated for credit when content changes.

*Repeatable for credit.*

**Grading:** Graded

*SPAN 298 - Special Study*

1-6 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*SPAN 299 - Master's Thesis or Project*

3-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the MA degree and advisor consent.

**Grading:** Mandatory CR/NC/RP

*TAG 1A - Elementary Tagalog I*

4 unit(s)

Develops four Tagalog language skills (listening, speaking, reading, and writing) in three modes of communication (interpersonal, interpretive, and presentational). Course provides the basic skills and knowledge to engage with Filipino social and cultural communities.

**Grading:** Graded

*TAG 1B - Elementary Tagalog II*

4 unit(s)

Basic skills and knowledge to engage with Filipino social and cultural communities. Covers the contents of Elementary Tagalog textbook, lessons 7-12. Development of four Tagalog language skills (listening, speaking,

reading, and writing) in three modes of communication (interpersonal, interpretive, and presentational).

**Prerequisite(s):** TAG 1A.

**Grading:** Graded

*TAG 25A - Intermediate Tagalog I*

*4 unit(s)*

Develops four Tagalog language skills (listening, speaking, reading, and writing) in three modes of communication (interpersonal, interpretive, and presentational) resulting in intermediate level of language knowledge and skills to engage with Filipino social and cultural communities. Covers lessons 1-10 of Intermediate Tagalog textbook.

**Prerequisite(s):** TAG 1B or equivalent.

**Grading:** Graded

*TAG 25B - Intermediate Tagalog II*

*4 unit(s)*

Develops four Tagalog language skills (listening, speaking, reading, and writing) in three modes of communication (interpersonal, interpretive, and presentational) resulting in intermediate level of language knowledge and skills to engage with Filipino social and cultural communities. Covers lessons 11-20 of Intermediate Tagalog textbook.

**Prerequisite(s):** TAG 25A.

**Grading:** Graded

*VIET 1A - Elementary Vietnamese*

*3 unit(s)*

Basic skills and structure of the language in the context of culture.

**Grading:** Graded

*VIET 1B - Elementary Vietnamese*

*3 unit(s)*

Continuation of VIET 1A. Basic skills and structure of the language in the context of culture.

**Prerequisite(s):** VIET 1A or equivalent.

**Grading:** Graded

*VIET 20A - Vietnamese Literacy for Vietnamese*

*3 unit(s)*

Designed for Vietnamese speakers wishing to learn to read and write in Vietnamese. Focus on teaching the five accents, the twelve vowels, basic grammar structures and translation from English to Vietnamese.

**Prerequisite(s):** Knowledge of spoken Vietnamese and instructor consent.

**Grading:** Graded

## School of Journalism and Mass Communication

**Office:** Dwight Bentel Hall 105

**Telephone:** 408-924-3240 (Voice); 408-924-3229 (Fax)

### **Professors**

Richard Craig  
Scott Fosdick  
Diana Stover  
Phylis West-Johnson, Director

### **Associate Professors**

Mathew Cabot  
Duane Michael Cheers  
John Delacruz  
Diane Guerrazzi  
Timothy Hendrick  
Robert Rucker

### **Assistant Professors**

Shaun Fletcher  
Nisha Garud-Patkar  
Tina Korani  
Cathy Zongchao Li

## **Overview**

Founded in 1936, the School of Journalism and Mass Communications is the largest school of its kind in Northern California. In 2012, the journalism program was ranked among the top two in California, and the top 50 in the U.S. It is also nationally accredited by the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC). We offer undergraduate degrees in advertising, convergence journalism and public relations, and a master's degree in mass communications. Timely, ethical and responsible visual storytelling utilizing new technologies is the focus in all our degree programs. We offer students access to scholarships, regional and global internships, and competitive prizes unavailable to students in non-accredited programs. Our faculty are experienced multimedia journalists, photographers, writers, graphics designers and advertising, public relations, and social media executives. Our graduates have won six Pulitzer Prizes and excelled in careers as online content producers, publishers, editors, news directors, and communication executives.

Students who wish to change their major at SJSU to one of those offered in the JMC School must fulfill department-specific coursework and GPA requirements as specified on the department website.

## **Honors Program**

Majors with a 3.2 GPA overall and a 3.5 GPA in advertising, journalism, or public relations at the end of their junior year (at least 90 units completed of which 30 are in the major) are eligible to apply for the Honors Program in the School of Journalism and Mass Communications. Application must be made to the Director of the School no later than the first semester of the senior year. The School will limit those admitted to the Honors Program each year to no more than 10 percent of the number of its graduates in the previous academic year. Once admitted to the Honors Program, students must maintain at least a 3.2 GPA overall and at least a 3.5 GPA in their major. They must take a graduate-level seminar that has been approved by the graduate coordinator. To receive honors, students, as part of

the seminar requirements, must complete and present a seminar paper and must receive a 3.0 or better grade in the course.

## Undergraduate

### Advertising, BS

- School of Journalism and Mass Communication
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 47

Major Requirements 56-61

University Electives 12-17

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Journalism and Mass Communication International Experience Requirement

To satisfy the School of Journalism and Mass Communication international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Humanities and the Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the School's International Experience website.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

### University Requirements (47 units)

#### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Requirements (56-61 units)

### International Experience (1-6 units)

*In consultation with advisor, select an International Experience course.*

## Core Courses (28 units)

*MCOM 199 substitutes for MCOM 111 and ADV 129 by invitation.*

- ADV 91 - Introduction to Advertising 3 unit(s)
- ADV 121 - Strategic Planning/Communications 3 unit(s)
- ADV 128 - Integrated Marketing Communications (IMC) 3 unit(s)
- ADV 129 - Advertising Campaign Planning and Management 3 unit(s)
- MCOM 70 - Visual Communication for Modern Media 3 unit(s)
- MCOM 100W - Writing Workshop: Mass Communications 3 unit(s) (Z)
- MCOM 104 - Introduction to Mass Communications Research 3 unit(s)
- MCOM 111 - Internship 3 unit(s)
- MCOM 170 - Strategic Social Media & Digital Marketing 3 unit(s)
- Approved elective in journalism, advertising, public relations or mass communications 1 unit(s)

## Track Option Requirements (27 units)

### Choose Management, Creative or Marketing Communication Track

#### Creative Option (27 units)

- ENGL 71 - Creative Writing 3 unit(s) (C2)
- ADV 93 - Design Fundamentals for Advertising 1 3 unit(s)
- ADV 94 - Design Fundamentals for Advertising 2 3 unit(s)
- ADV 95 - Working With Type 3 unit(s)
- ADV 124 - Copywriting 3 unit(s)
- ADV 126 - Media Planning and Buying 3 unit(s)
- ADV 130 - Advertising Portfolio 1 3 unit(s)
- ADV 131 - Advertising Portfolio 2 3 unit(s)
- ADV 132 - UX UI Design for Advertising 3 unit(s)

#### Management Option (27 units)

- ADV 122 - Business-to-Business Advertising 3 unit(s)
- ADV 123 - Broadcast and New Media Advertising 3 unit(s)
- ADV 126 - Media Planning and Buying 3 unit(s)
- BUS2 130 - Introduction to Marketing 3 unit(s)
- BUS5 146 - Fundamentals of Project Management 3 unit(s)
- MCOM 63 - New Media 3 unit(s)
- MCOM 175 - Social Media and Web Analytics 3 unit(s)
- STAT 95 - Elementary Statistics 3 unit(s) (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

#### Complete One Course From:

- ADV 116 - Spartan Daily Advertising Staff 3 *unit(s)*
- Advertising Management Elective 3 *unit(s)*

### Marketing Communication Option (27 units)

- ADV 126 - Media Planning and Buying 3 *unit(s)*
- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- BUS5 146 - Fundamentals of Project Management 3 *unit(s)*
- MCOM 63 - New Media 3 *unit(s)*
- MCOM 175 - Social Media and Web Analytics 3 *unit(s)*
- PR 99 - Introduction to Public Relations 3 *unit(s)*
- PR 190 - Media and Influencer Relations 3 *unit(s)*
- PR 191 - Strategic Content Creation 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

### University Electives (12-17 units)

### Total Units Required (120 units)

## Journalism, BS

- School of Journalism and Mass Communication
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	47
Major Preparation	15
Major Requirements	34-39
Advisor Approved Academic Focus or Minor	18
University Electives	1
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Journalism and Mass Communication International Experience Requirement

To satisfy the Journalism and Mass Communication Department international requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted). Specific details can be found on the college website at [www.sjsu.edu/chahs/international-experience/](http://www.sjsu.edu/chahs/international-experience/).

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)



## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (15 units)

- JOUR 50 - Navigating the News 3 *unit(s)* (D1)
- MCOM 63 - New Media 3 *unit(s)*
- MCOM 72 - Mass Communication and Society 3 *unit(s)* (D3)
- MCOM 100W - Writing Workshop: Mass Communications 3 *unit(s)* (Z)
- MCOM 163 - Advanced New Media Technologies 3 *unit(s)*

## Major Requirements (34-39 units)

## International Experience (0-3 units)

*In consultation with advisor, select an International Experience course or a Study Abroad program.*

## Core Courses (30 units)

- JOUR 61 - Writing for Print, Electronic and Online Media 3 *unit(s)*
- JOUR 95 - Beginning Digital News Photography 3 *unit(s)*
- JOUR 130 - Student Media Apprentice 3 *unit(s)*
- JOUR 132 - Magazine Reporting, Print and Online 3 *unit(s)*
- JOUR 133 - Editing and News Management 3 *unit(s)*
- MCOM 101 - Media Law and Ethics 3 *unit(s)*
- MCOM 111 - Internship 3 *unit(s)*

## Complete One Course From:

- MCOM 104 - Introduction to Mass Communications Research 3 *unit(s)*
- MCOM 105 - Lifestyles, Diversity and the Media 3 *unit(s)*
- MCOM 106 - Global Mass Communication 3 *unit(s)*

## Complete Two Courses From:

One course must be JOUR 140A, JOUR 140B, JOUR 140C, or JOUR 140D. All courses are repeatable for credit.

- JOUR 140A - Student Media Production: Update News 1-3 unit(s) (3 units required)
- JOUR 140B - Student Media Production: Spartan Daily 1-3 unit(s) (3 units required)
- JOUR 140C - Student Media Production: The Spear 3 unit(s)
- JOUR 140D - Student Media Production: Magazine 3 unit(s)
- JOUR 150 - News Media Management 3 unit(s)

## Upper Division Journalism Electives (4-6 units)

Complete 4 units from:

- JOUR 136 - Newspaper and Magazine Design 3 unit(s)
- JOUR 140A - Student Media Production: Update News 1-3 unit(s) (3 units required)
- JOUR 140B - Student Media Production: Spartan Daily 1-3 unit(s) (3 units required)
- JOUR 140C - Student Media Production: The Spear 3 unit(s)
- JOUR 140D - Student Media Production: Magazine 3 unit(s)
- JOUR 142 - Beginning Visual Journalism for Print/Electronic Media 3 unit(s)
- JOUR 150 - News Media Management 3 unit(s)
- JOUR 167 - Television News Magazine 3 unit(s)
- JOUR 176A - Documentary Unit I - Short Form Feature Production 3 unit(s)
- JOUR 176B - Documentary Unit II - Long Form/Series Production 3 unit(s)
- MCOM 70 - Visual Communication for Modern Media 3 unit(s)
- MCOM 105 - Lifestyles, Diversity and the Media 3 unit(s)
- MCOM 106 - Global Mass Communication 3 unit(s)
- MCOM 107 - Audio Podcasting, Aesthetics and Invention 3 unit(s)
- MCOM 108 - Virtual Worlds, Virtual Reality and Mass Media 3 unit(s)
- MCOM 139 - Specialized Writing 3 unit(s)
- MCOM 180 - Independent Study 1-6 unit(s) (1-3 units required)
- MCOM 180ITL - JMC International Experience 1-6 unit(s) (1-3 units required)

## Academic Focus or Minor (18 units)

**Complete an advisor-approved academic focus or 18 units consisting of a minor with approved courses.**

*Academic foci include: Science, Justice Studies, Human Rights, Sports Journalism, or Visual Journalism & News Documentary. Must include at least 6 units of upper division.*

## University Electives (1 unit)

## Total Units Required (120 units)

## Public Relations, BS

- School of Journalism and Mass Communication
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	50
Major Preparation	22
Major Requirements	41-46
University Electives	2-7
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Journalism and Mass Communication International Experience Requirement**

To satisfy the Journalism and Mass Communication Department International Experience requirement, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (50 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (22 units)**

- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- COMM 144F - Organizational Communication 4 *unit(s)*
- MCOM 63 - New Media 3 *unit(s)*
- Academic focus in an academic department with approval of school academic advisor 12 *unit(s)*

**Major Requirements (41-46 units)**

*MCOM 199 substitutes for MCOM 111 and PR 199 by invitation.*

- MCOM 72 - Mass Communication and Society 3 *unit(s)* (D3)
- MCOM 100W - Writing Workshop: Mass Communications 3 *unit(s)* (Z)

- MCOM 101 - Media Law and Ethics 3 *unit(s)*
- MCOM 104 - Introduction to Mass Communications Research 3 *unit(s)*
- MCOM 111 - Internship 3 *unit(s)*
- JOUR 61 - Writing for Print, Electronic and Online Media 3 *unit(s)*
- PR 99 - Introduction to Public Relations 3 *unit(s)*
- PR 190 - Media and Influencer Relations 3 *unit(s)*
- PR 191 - Strategic Content Creation 3 *unit(s)*
- PR 192 - Case Studies in Strategic Communication 3 *unit(s)*
- PR 199 - Campaign Planning and Management 3 *unit(s)*
- Approved electives in journalism, advertising, public relations or mass communications 4 *unit(s)*

### Complete One Course From:

- MCOM 70 - Visual Communication for Modern Media 3 *unit(s)*
- MCOM 105 - Lifestyles, Diversity and the Media 3 *unit(s)*
- MCOM 106 - Global Mass Communication 3 *unit(s)*

### International Experience (1-6 units)

*In consultation with advisor, select an International Experience course.*

### University Electives (2-7 units)

### Total Units Required (120 units)

## Master

### Mass Communications, MS

The School of Journalism and Mass Communication offers a 30-unit, four-semester Master of Science in Mass Communications degree program that culminates with a professional standard project. The curriculum was designed to help students master the concepts and skills that are driving emerging communication technologies in public relations, advertising, and journalism. Elective units allow students to tailor the program to their interests.

Information about the Master of Science in Mass Communications is available on the website of the School of Journalism and Mass Communications: [sjsujmc.com/graduate/](http://sjsujmc.com/graduate/).

## Admission Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applications meeting university graduate

admission standards will be reviewed by the School of Journalism and Mass Communications. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

The School admits students in the fall semester only. Applicants are responsible for obtaining information on admissions criteria and deadlines from the JMC School Graduate Coordinator or the main school office.

To be admitted to the program a prospective student must:

1. Complete an application for admission to the university, submit required transcripts and pay the required application fees.
2. Complete a 250-500 word essay on the applicant's career objectives and upload it on the same application site as above.
3. Obtain two letters of recommendation from current or former professors and/or employers who can testify to the candidate's ability to pursue an advanced academic degree. These letters should be sent directly to the Graduate Coordinator of the program. At least one recommendation letter must be from a current or former professor unless the applicant has not taken any courses during the previous five years.
4. Foreign students must score at least 600 on the TOEFL and must demonstrate English proficiency in a written essay.
5. Grade point averages are given considerable weight in evaluating applications, but are not the sole criterion. An applicant should have an average of 3.0 or better (3.3 for foreign students) in the last two years of undergraduate study and the undergraduate major. Exceptions may be made for applicants if the candidate has had significant professional experience in the mass media, offers strong letters of recommendation or other evidence indicating a potential for success in graduate study.

Applicants must meet requirements for graduate admission; however, no particular specialization in undergraduate work is required of a candidate.

## Requirements for Admission to Candidacy

To be admitted to candidacy for the Master of Science degree, a student must first meet all university requirements for the degree as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. That requirement is met by taking MCOM 210 (a required course in the program).

The student must demonstrate an aptitude for advanced work in communications, as measured by instructor appraisals, evaluation of previous academic work, recommendations by qualified professionals or other assessments.

The student will meet with the graduate coordinator to develop a formal course of study. The MS degree-approved program will be individually designed to meet the specific objectives of each student. It will take into consideration the nature of previous undergraduate work and post-graduate work completed, as well as any professional and related occupational experience. The proposed graduate course of study must be approved by the graduate coordinator before the student may be considered a candidate for the MS, Mass Communications.

## Requirements for Graduation

# University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

All students in this program follow Plan B (Project) for their culminating experience.

### Plan B (Project)

Plan B requires the successful completion of a professionally-oriented project employing multiple media and an oral presentation to a faculty-student audience. Projects should reflect the values of journalism, advertising, or public relations. Projects are designed and completed in a two-semester sequence.

## Master's Requirements (30 units)

### Core Courses (15 units)

- MCOM 210 - Media and Social Issues 3 unit(s) (GWAR)
- MCOM 215 - New Media Visionaries 3 unit(s)
- MCOM 284 - Advanced User Experience 3 unit(s)
- MCOM 285 - Web Design and Development 3 unit(s)
- MCOM 295 - Mass Communications Research 3 unit(s)

### Electives (9 units)

Nine units of electives approved by graduate advisor. 100- or 200-level courses in the School or other departments, related to the candidate's career objective and culminating experience topic.

## Culminating Experience (6 units)

### Plan B (Project)

*Students take 3 units of MCOM 298A and MCOM 298B in consecutive semesters.*

- MCOM 298A - Master's Project I 3 unit(s)
- MCOM 298B - Master's Project II 3 unit(s)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Advertising Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

- ADV 91 - Introduction to Advertising *3 unit(s)*
- ADV 128 - Integrated Marketing Communications (IMC) *3 unit(s)*
- ADV 129 - Advertising Campaign Planning and Management *3 unit(s)*

#### Complete Three Courses From:

- ADV 116 - Spartan Daily Advertising Staff *3 unit(s)*
- ADV 121 - Strategic Planning/Communications *3 unit(s)*
- ADV 122 - Business-to-Business Advertising *3 unit(s)*
- ADV 123 - Broadcast and New Media Advertising *3 unit(s)*
- ADV 124 - Copywriting *3 unit(s)*
- ADV 125 - Advertising Layout and Production *3 unit(s)*
- ADV 126 - Media Planning and Buying *3 unit(s)*

## Total Units Required (18 units)

### Digital Media for Mass Communications Minor

The Digital Media for Mass Communications is the ideal complement to any major, helping students effectively learn and apply the necessary mass media skills to communicate their ideas to a mass audience. This minor will help students from all disciplines to achieve technical media competency in today's workplace, no matter their field of study.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).



## Minor Requirements (15 units)

- MCOM 63 - New Media 3 *unit(s)*
- MCOM 107 - Audio Podcasting, Aesthetics and Invention 3 *unit(s)*
- MCOM 108 - Virtual Worlds, Virtual Reality and Mass Media 3 *unit(s)*
- MCOM 163 - Advanced New Media Technologies 3 *unit(s)*
- MCOM 175 - Social Media and Web Analytics 3 *unit(s)*

## Total Units Required (15 units)

## Journalism Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (17-21 units)

- MCOM 63 - New Media 3 *unit(s)*
- MCOM 72 - Mass Communication and Society 3 *unit(s)* (D3)
- JOUR 61 - Writing for Print, Electronic and Online Media 3 *unit(s)*
- JOUR 132 - Magazine Reporting, Print and Online 3 *unit(s)*
- JOUR 140B - Student Media Production: Spartan Daily 1-3 *unit(s)*
- JOUR 140A - Student Media Production: Update News 1-3 *unit(s)*
- Upper Division ADV/JOUR/PR/MCOM Elective 3 *unit(s)*

## Total Units Required (17-21 units)

## Public Relations Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

- MCOM 72 - Mass Communication and Society 3 *unit(s)* (D3)
- JOUR 61 - Writing for Print, Electronic and Online Media 3 *unit(s)*
- PR 99 - Introduction to Public Relations 3 *unit(s)*
- PR 192 - Case Studies in Strategic Communication 3 *unit(s)*

## Complete One Course From:

- PR 190 - Media and Influencer Relations 3 *unit(s)*
- PR 191 - Strategic Content Creation 3 *unit(s)*
- Approved electives in journalism, advertising, public relations or mass communications 3 *unit(s)*

## Total Units Required (18 units)

### *ADV 91 - Introduction to Advertising*

3 *unit(s)*

Comprehensive survey of the basic principles of advertising. Topics include: strategic planning, integrated communications, audience targeting, creative strategy, advertising media, social responsibility, advertising ethics, international advertising and current issues in advertising.

**Grading:** Graded

### *ADV 92 - Int'l Program Studies*

1-12 *unit(s)*

**Grading:** Mixed Grading

### *ADV 93 - Design Fundamentals for Advertising 1*

3 *unit(s)*

Introduces students to the ideation and design process as it relates to advertising. Students learn design thinking, ideation techniques, print design, screen design, advertising formats and storytelling across media platforms.

**Grading:** Graded

### *ADV 94 - Design Fundamentals for Advertising 2*

3 *unit(s)*

Introduction to digital video production and editing. Focus on learning how to tell a story by combining video and audio, story boarding, script writing, framing, creating a shot sequence, video editing and special effects using industry-standard software.

**Prerequisite(s):** ADV 93 and ADV 91

**Grading:** Graded

### *ADV 95 - Working With Type*

3 *unit(s)*

Theory and practice of typography as they apply to graphics, advertising and other areas of visual communication. Through a series of projects students develop a greater sensitivity to typographic details to create successful typographic messages.

**Grading:** Graded

### *ADV 116 - Spartan Daily Advertising Staff*

3 *unit(s)*

This class constitutes the paid advertising staff of the online and print editions of the Spartan Daily. Students work

with clients and handle the newspaper's advertising sales and production.

*Misc/Lab: Daily lecture and production.*

**Prerequisite(s):** ADV 91 or instructor consent.

**Grading:** Graded

*ADV 121 - Strategic Planning/Communications*

*3 unit(s)*

Tools and frameworks for marketing management and strategic communications, including addressing communication issues such as budgets, coordinating agency functions, and delivering an effective marketing and communications plan.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*ADV 122 - Business-to-Business Advertising*

*3 unit(s)*

Principles and practices of developing marketing communications programs and collateral materials for business-to-business products and services; translating technical information into persuasive communications; direct marketing, and other forms of sales support communications.

**Prerequisite(s):** ADV 91.

**Grading:** Graded

*ADV 123 - Broadcast and New Media Advertising*

*3 unit(s)*

History, development, and current applications of traditional broadcast advertising, the Internet as an advertising medium, and the implications of emerging new media. Focus is on creative strategy and media strategy.

**Prerequisite(s):** ADV 91.

**Grading:** Graded

*ADV 124 - Copywriting*

*3 unit(s)*

Conceptual development. Advertising theory used in the development of writing, editing and evaluating advertising copy. Research methods and techniques. Ethical problems.

**Prerequisite(s):** ADV 91, MCOM 100W and ENGL 71.

**Grading:** Graded

*ADV 125 - Advertising Layout and Production*

*3 unit(s)*

Principles of design applied to print advertising; print production theory and practical application. Preparation of layouts and mechanicals utilizing latest computer applications. Instruction in use of type, printing processes, types of paper, uses of color.

**Prerequisite(s):** ADV 91.  
**Grading:** Graded

*ADV 126 - Media Planning and Buying*

3 unit(s)

Theory, evaluation and selection of advertising media for a variety of target audiences; demographics and psychographics. Students plan, buy and measure the success of a real media plan.

**Prerequisite(s):** ADV 91 and BUS2 130.  
**Grading:** Graded

*ADV 128 - Integrated Marketing Communications (IMC)*

3 unit(s)

Learn how advertising, public relations, promotions, and marketing all work together to achieve campaign objectives. Strategic planning, budgeting, research, tactics, evaluation, presentation skills and team building.

**Prerequisite(s):** Three ADV courses and BUS2 130.  
**Grading:** Graded

*ADV 129 - Advertising Campaign Planning and Management*

3 unit(s)

Capstone course in which students engage hands-on in the process and methods employed to develop a fully integrated advertising campaign based on the marketing objectives established by a real-world client.

**Prerequisite(s):** MCOM 111 or ADV 116.  
**Grading:** Graded

*ADV 130 - Advertising Portfolio 1*

3 unit(s)

Apply fundamentals of design thinking, teamwork, and various media methods to creating a body of advertising work in the form of a portfolio. Students work on a series of projects and award show briefs in creative teams.

**Prerequisite(s):** ADV 91, ADV 93, and ADV 94  
**Grading:** Graded

*ADV 131 - Advertising Portfolio 2*

3 unit(s)

Students enhance portfolios developed in Advertising Portfolio 1 with more award show work and live client projects. Each brief requires development of technical skills across media platforms and production of professional work.

**Prerequisite(s):** ADV 91, ADV 93, ADV 94, ADV 130  
**Grading:** Graded

*ADV 132 - UX UI Design for Advertising*

3 unit(s)

Human centered design process as it pertains to user interaction (UI) and user experience (UX) design. Students conduct basic user research to create personas that guide the development of content strategy, information architecture, feature sets, wireframes and annotations as they pertain to (1) large scale web development and (2) integrated campaign assignments that cover a wide range of interactive platforms.

**Prerequisite(s):** ADV 91, ADV 93, and ADV 94

**Grading:** Graded

*ADV 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*JOUR 50 - Navigating the News*

3 unit(s)

Introduction to different forms of news media we consume to become informed and engaged citizens, and how media shape our world. Development of skills to critically evaluate the credibility of news sources, distinguish between real and fake news, and examine contemporary news events and news media coverage in cultural, historical, environmental, and spatial contexts.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*JOUR 61 - Writing for Print, Electronic and Online Media*

3 unit(s)

Introduction to writing for media--newspapers, magazines, electronic and the Internet--as well as producing content for multi-media distribution in a converged media environment. Emphasis on how different media require different writing styles and content.

**Prerequisite(s):** ENGL 1A, ENGL 2

**Grading:** Graded

*JOUR 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Graded

*JOUR 95 - Beginning Digital News Photography*

3 unit(s)

Basic introduction to news photography and photojournalism field. Includes camera use -- composition, aperture, shutter speed and lens selection -- and processing for print or electronic media using PhotoShop. Emphasis on technical aspects of digital news photography and storytelling with photographs.

**Prerequisite(s):** Writing Enrollment Category W-I or W-II or completion of ENGL 1AF with grade of CR.

**Grading:** Graded

*JOUR 130 - Student Media Apprentice*

3 unit(s)

A deep dive into a pool of multimedia concepts, techniques and skills, while working as a student media apprentice reporter. Includes fundamentals of reporting, writing, shooting and editing, as well as storytelling in video, audio and text with photo.

**Prerequisite(s):** JOUR 61

**Grading:** Graded

*JOUR 132 - Magazine Reporting, Print and Online*

3 unit(s)

Reporting and writing of feature stories for magazines, print and online. Develops expertise in reaching a targeted audience with words and images. While the prerequisite, JOUR 61, teaches breaking news writing, this course explores longer, deeper forms.

**Prerequisite(s):** JOUR 61

**Grading:** Graded

*JOUR 133 - Editing and News Management*

3 unit(s)

Media Lab. for the editor serving as wordsmith and coach, a hands-on approach to copy editing and headline writing for online and print media. Students work as editors for media lab publications.

**Prerequisite(s):** JOUR 61 or instructor consent.

**Grading:** Graded

*JOUR 134 - In-Depth Online Reporting*

3 unit(s)

Media Lab. Designed for experienced writers who want to report for online media. Includes feature and in-depth reporting as well as Web design for a team project.

**Prerequisite(s):** JOUR 61 or instructor consent.

**Grading:** Graded

*JOUR 136 - Newspaper and Magazine Design*

3 unit(s)

Principles of newspaper and magazine design--news judgment, story and headline hierarchy, typography and meaningful visual storytelling through use of photos/art. Practice in creating newspaper pages and magazine layouts and cover designs.

**Prerequisite(s):** JOUR 61, JOUR 133 or instructor consent.

**Grading:** Graded

*JOUR 137 - Reviewing the Arts*

3 unit(s)

Students explore the arts while learning to forge their opinions into reasoned critical journalistic reviews. Students will attend performances and exhibits, meet and interview artists and professional critics, read selected writings in criticism and aesthetics, and learn to support their insightful opinions with evidence.

**Prerequisite(s):** JOUR 61  
**Grading:** Graded

*JOUR 138 - Sports Journalism Investigation*

*3 unit(s)*

Course prepares sports journalists to develop their investigative and technical skills in audio, video, photography, and sports writing across traditional and new media platforms. Students work collaboratively across media to publish sports features weekly. Diversity/inclusion emphasized.

**Corequisite(s):** JOUR 61 or consent of instructor  
**Grading:** Graded

*JOUR 140A - Student Media Production: Update News*

*1-3 unit(s)*

Students report, write, shoot, edit, anchor and produce Update News. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. The various student media work in a spirit of convergence and collaboration. May be repeated for up to 9 units of credit.

*Activity 6 hours.*

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** JOUR 61.  
**Grading:** Graded

*JOUR 140B - Student Media Production: Spartan Daily*

*1-3 unit(s)*

A team of reporters, photographers and editors produce student media content in the Spartan Daily. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. Various student media work in collaboration. This course may be repeated with instructor consent

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** JOUR 61  
**Grading:** Graded

*JOUR 140C - Student Media Production: The Spear*

*3 unit(s)*

Students report, write, shoot, edit, anchor and produce the sports program and/or magazine, The Spear. Course is run as a working newsroom where accuracy, quality and deadlines are paramount. Student media work in collaboration. May be repeated for credit with instructor consent.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** JOUR 61  
**Grading:** Graded

*JOUR 140D - Student Media Production: Magazine*

3 unit(s)

A team of reporters, photographers and editors produce a magazine in conjunction with supervising editors in JOUR 150. Course is run as a working magazine office where accuracy, quality and deadlines are paramount. Various student media work in collaboration.

*Activity 6 hrs.*

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** JOUR 61, JOUR 132.

**Grading:** Graded

*JOUR 142 - Beginning Visual Journalism for Print/Electronic Media*

3 unit(s)

Media Lab. Introduction to basic principles and practices of photojournalism for online media, newspapers, magazines and corporate publications, using still photographs to tell the story.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** JOUR 95, PHOT 40, or instructor consent.

**Grading:** Graded

*JOUR 144 - Picture Editing for Print/Electronic Media*

3 unit(s)

Presentation and picture editing for online media, newspapers, magazines and other publications; visual tactics to bring readers to a page, picture selection, graphics, layout, design and ethical considerations using illustrative art and photography.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*JOUR 150 - News Media Management*

3 unit(s)

Capstone course in which students manage media, by overseeing the operation of publications, broadcasts and digital platforms. Students apply for management positions. Repeatable for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** JOUR 61 and JOUR 140A, or JOUR 140B, or JOUR 140C, or JOUR 140D

**Grading:** Graded

*JOUR 153 - Magazine Writing & Editing*

3 unit(s)

Overview of magazine field, focusing on reporting, writing and editing. Students learn how an idea progresses from manuscript through art meetings to the printed or online page. Prepares students to produce San Jose State's student magazine, Access, in JOUR 155.



**Prerequisite(s):** JOUR 132C.

**Grading:** Graded

*JOUR 155 - Magazine Editing and Production*

3 unit(s)

Media Lab. Editing/producing print and online versions of award-winning Access and Etc. magazines. Staff edits articles, art and photography submitted by media lab students and other SJSU freelancers.

*Misc/Lab: Lecture 2 hours/activity 2 hours*

**Prerequisite(s):** JOUR 132C, JOUR 153.

**Grading:** Graded

*JOUR 164 - Electronic News Gathering for Television*

3 unit(s)

Media Lab. Principles and techniques of covering news for electronic media. Instruction in all aspects of television news gathering, presentation and production including writing, shooting, editing, producing and anchoring. Includes both field and studio work.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** JOUR 61 or instructor consent.

**Grading:** Graded

*JOUR 167 - Television News Magazine*

3 unit(s)

This is a course dedicated to quality, long-form visual reporting, told through the half-hour show, Equal Time. Each episode focuses on a specific topic in depth. The stories center around news important to Californians, and they air on the PBS-TV station, KQED Silicon Valley. The show contains taped packages and live-to-tape roundtable discussions. Students are responsible for several aspects of show creation, including reporting, writing, shooting, editing and producing. Repeatable for up to 6 units of credit when topic changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** JOUR 61, JOUR 165 or Instructor Approval

**Grading:** Graded

*JOUR 176A - Documentary Unit I - Short Form Feature Production*

3 unit(s)

Explores the history and methods of producing a short-form non-fiction visual documentary. Students learn basic camera production techniques to execute their proposals. Students will be introduced to studio lighting, sound and post production skills. Diversity themes emphasized.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*JOUR 176B - Documentary Unit II - Long Form/Series Production*

3 unit(s)

Focuses on the making of a long-form documentary production or a documentary feature series (consisting of 2 or more short segments). Students are introduced to field techniques and formats for extended documentary production. Diversity themes emphasized.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*JOUR 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*MCOM 63 - New Media*

3 unit(s)

Hands on instruction in multimedia and emerging new media technologies. Print and web page design, blogging, podcasting, videocasting, RSS and creation of multimedia presentations by combining still photos, graphics, and video with music and/or audio.

**Grading:** Graded

*MCOM 70 - Visual Communication for Modern Media*

3 unit(s)

Design for television, newspapers, advertising, public relations, magazines, film and video. Modules include design and impact of visual imagery and how to apply sound ethical principles.

**Grading:** Graded

*MCOM 72 - Mass Communication and Society*

3 unit(s)

Mass communication and its relationship to society. Basic theories in mass communication, contemporary issues and milestones in our understanding of media effects.

*Satisfies D3: Social Issues/Ethnic Studies*

**Prerequisite(s):** Not repeatable for credit if equivalent course has been taken elsewhere.

**Grading:** Graded

*MCOM 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*MCOM 100W - Writing Workshop: Mass Communications*

3 unit(s)

Advanced writing across the media -- advertising, journalism and public relations. Writing and research for an increasingly convergent media with multiple media formats from the Web to print and broadcast, including writing to accompany audio and visual images. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Public Relations, Journalism, Advertising. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR). Should be taken junior year; required of all advertising, journalism and public relations majors before they reach senior standing.

*MCOM 101 - Media Law and Ethics*

*3 unit(s)*

Principles and case studies of mass communications law and ethics. Constitutional guarantees, libel, privacy, contempt, privilege, copyright, Internet law, FCC and FTC regulatory law.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MCOM 103 - History of American Media*

*3 unit(s)*

Development of mass communications in the United States from colonial times to the present. Social, economic and political factors that shaped modern media and the impact of mass media on the society.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MCOM 104 - Introduction to Mass Communications Research*

*3 unit(s)*

Introduction to social science research in mass communications; emphasis on public opinion research, including sampling, survey research design, measurement; also precision journalism, content analysis and external databases; may include class project.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MCOM 105 - Lifestyles, Diversity and the Media*

*3 unit(s)*

Identifies and evaluates the impact of ethnicity/culture, alternative lifestyles and gender issues on advertising, television, radio, newspapers, magazines and public relations. Examines attitudes, trends and perceptions that help shape mass communication messages.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MCOM 106 - Global Mass Communication*

3 unit(s)

Societal factors behind gathering and disseminating information and entertainment content among mass communication systems of the world. Basic theoretical concepts about international communication and international relations. Impact on economy, politics, culture and governmental communication policies.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MCOM 107 - Audio Podcasting, Aesthetics and Invention*

3 unit(s)

Explores philosophies, methods, and perceptions of sound aesthetics, archiving, and techniques that comprise audio podcasting (and related documentary production) to develop "aural" skills collaboratively across traditional and new media technologies as innovators of sound practice.

**Grading:** Graded

*MCOM 108 - Virtual Worlds, Virtual Reality and Mass Media*

3 unit(s)

Explores how virtual reality is shaping our media experiences and expectations, from work, socialization and news reporting. Students learn to investigate, experiment, and interact with virtual and augmented technologies, structures and people within those media platforms.

**Grading:** Graded

*MCOM 111 - Internship*

3 unit(s)

Field work for advertising, journalism and public relations majors near end of junior or beginning of senior year, including summer term.

**Prerequisite(s):** At least 9 units of major course work in the department (including specified foundation courses) and advisor consent.

**Grading:** Credit/No Credit

*MCOM 139 - Specialized Writing*

3 unit(s)

Writing for mass communication with focus on specific topic during the semester. Topics may include specialized writing in public relations, advertising, broadcast and print media.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** JOUR 61, upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*MCOM 163 - Advanced New Media Technologies*

3 unit(s)

Hands on instruction in multimedia and emerging new media technologies. Print and web page design, blogging, podcasting, RSS and creation of interactive multimedia presentations by combining still photos, graphics, and video with music and/or other audio.

**Prerequisite(s):** MCOM 63 or Instructor Consent

**Grading:** Graded

*MCOM 170 - Strategic Social Media & Digital Marketing*

3 unit(s)

Integration of content and social media within the broader digital marketing ecosystem to include paid social, paid search, search engine optimization, influencer marketing & brand storytelling.

**Prerequisite(s):** MCOM 100W

**Grading:** Graded

*MCOM 175 - Social Media and Web Analytics*

3 unit(s)

Fundamentals of social media and web analytics. How to transform data to actionable insights and develop campaign strategies. Data analytics tools, deriving insights from social metrics, and suggesting data informed decisions to intended audiences.

**Prerequisite(s):** ADV 91 or PR 99, and upper division standing; or instructor consent.

**Grading:** Graded

*MCOM 180 - Independent Study*

1-6 unit(s)

Independent study projects and activities supervised by a Journalism and Mass Communications faculty member. Projects must be directly related to fields within the Journalism and Mass Communications School. All undergraduate Advertising, Journalism, Public Relations and graduate Mass Communications students may enroll.

*Course may be repeated for credit for up to 12 units.*

**Grading:** Credit/No Credit

*MCOM 180ITL - JMC International Experience*

1-6 unit(s)

Through international study students will examine globalization models to gain a global perspective on geopolitical and economic issues, media and integrated strategic communications, explore the concepts of global citizenship and global corporate citizenship, and learn how to analyze cultural differences.

*Course is repeatable for up to 9 units.*

**Prerequisite(s):** SJSU upper division undergraduate or graduate student, or by instructor's permission.

**Grading:** Graded

*MCOM 192 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*MCOM 199A - Advertising & Public Relations Agency I*

3 unit(s)

The first of a two-semester capstone course where seniors will work in teams in a School-sponsored Advertising and Public Relations Agency to plan and execute real-world integrated strategic campaigns as well as to prepare entries for national competitions. Enrollment by permission only.

**Prerequisite(s):** PR Majors: PR 99, PR 190 or PR 192; PR 191; ADV Majors: ADV 91.

**Grading:** Graded

*MCOM 199B - Advertising & Public Relations Agency II*

3 unit(s)

The second of a two-semester capstone course where seniors will work in teams in a School-sponsored Advertising and Public Relations Agency to plan and execute real-world integrated strategic campaigns as well as to prepare entries for national competitions. Enrollment by permission only.

**Prerequisite(s):** MCOM 199A.

**Grading:** Graded

*MCOM 210 - Media and Social Issues*

3 unit(s)

Selected readings and group discussions of significant published works dealing with mass communications: history, biography and appraisals; law and ethics of the print and broadcast media, advertising and public relations; public opinion and propaganda.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*MCOM 215 - New Media Visionaries*

3 unit(s)

Class lecture series by visiting Silicon Valley leaders on the development of new media products, including such topics as idea generation, intellectual property, funding, design, development and integrated communication strategies.

**Prerequisite(s):** Admission to Graduate program.

**Grading:** Graded

*MCOM 260 - Integrated Strategic Communications*

3 unit(s)

Investigates the theory and practice of integrated communications to include promotion, advertising, public relations, direct marketing and branding. It explains how to integrate these processes of communication and how to develop a comprehensive integrated marketing communications plan.

**Prerequisite(s):** Intro course in advertising, public relations or marketing, or instructor consent.

**Grading:** Graded

*MCOM 270 - Communication Law and Public Policy*

*3 unit(s)*

A case history approach to the law of communications, including libel, privacy and regulation of broadcasting. Major development and landmark decisions, with emphasis on contemporary ethical and social issues such as free-press/fair trial and new technology.

**Grading:** Graded

*MCOM 280 - Communication Management*

*3 unit(s)*

Explores the practice and theory of media management as it applies to: online media, newspapers, magazines, radio stations, television stations, advertising agencies, public relations firms, corporate communications and marketing communications. It incorporates leadership, media economics and conflict resolution.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MCOM 284 - Advanced User Experience*

*3 unit(s)*

Students work in teams to create, develop and implement hypothetical Web and mobile applications while living the role of the interactive project manager, design manager and development manager. Class focuses on the rapidly changing creative and technological base of interactive Web and mobile application development. Admission to graduate program.

**Grading:** Graded

*MCOM 285 - Web Design and Development*

*3 unit(s)*

Introduction to website design, creation, and maintenance. Popular web design and graphics programs including content management systems (WordPress), and Adobe XD.

**Grading:** Graded

*MCOM 290 - Theory of Mass Communications*

*3 unit(s)*

Basic theories of communications systems. Functional comparisons of various communications systems in relation to political structure. Communications theories in related disciplines of psychology, sociology, anthropology, economics and political science.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*MCOM 295 - Mass Communications Research*

3 unit(s)

Methodologies of research in mass communications: historical, descriptive and empirical with emphasis on statistical aspects of data processing and interpretation.

**Prerequisite(s):** MCOM 210 and MCOM 290 or instructor consent.

**Grading:** Graded

*MCOM 298A - Master's Project I*

3 unit(s)

Development of master's project literature review and proposal. Identify and work with professional mentors. Collaborative teamwork as appropriate to project goals.

**Prerequisite(s):** Advancement to Candidacy

**Grading:** Mandatory CR/NC/RP

*MCOM 298B - Master's Project II*

3 unit(s)

Completion of master's project meeting professional standards in Advertising, Journalism, or Public Relations. Presentation and constructive feedback to peers.

**Prerequisite(s):** MCOM 298A

**Grading:** Credit/No Credit

*MCOM 299 - Master's Thesis*

3-6 unit(s)

Supervised thesis in the field of mass communications. May be repeated for credit (not in same semester).

**Prerequisite(s):** Admission to candidacy for the master's degree and approval of thesis proposal.

**Grading:** Mandatory CR/NC/RP

*PR 92 - Int'l Program Studies*

1-6 unit(s)

Course may be repeated for credit for up to 6 units.

**Grading:** Mixed Grading

*PR 99 - Introduction to Public Relations*

3 unit(s)

Principles, evolution, and professional practice of modern public relations. Concepts of planning and executing effective communication strategies, including message design and distribution, for any organization.

**Grading:** Graded



*PR 190 - Media and Influencer Relations*

3 unit(s)

How to promote an organizations brand by developing relationships with traditional and digital news organizations and social media influencers to earn credible third-party content that is ultimately discovered, shared, and drives a desired action.

**Prerequisite(s):** JOUR 61

**Grading:** Graded

*PR 191 - Strategic Content Creation*

3 unit(s)

Basics of creating and implementing a strategic content marketing plan, introducing students to tools and techniques for delivering valuable, relevant, and measurably effective content on behalf of organizations, guiding students through production of various marketing communication assets.

**Prerequisite(s):** JOUR 61

**Grading:** Graded

*PR 192 - Case Studies in Strategic Communication*

3 unit(s)

Case studies focusing on the problems and challenges faced by a variety of organizations. Practical application of creative problem-solving, theory, and research about "real world" situations.

**Prerequisite(s):** PR 99.

**Grading:** Graded

*PR 192I - Int'l Program Studies*

1-9 unit(s)

**Grading:** Mixed Grading

*PR 193 - Special Event Management*

3 unit(s)

The planning and managing of events for the purpose of accomplishing organizational objectives. Emphasis on creative thinking, logistics and practical application of strategies and tactics. A major project is the execution of an actual event.

**Prerequisite(s):** PR 99 or instructor consent.

**Grading:** Graded

*PR 195 - Strategic Sport Communication and Media*

3 unit(s)

Overview of the field of sport communication and media; specific topics include models of sport communication, print and electronic media, sport advertising, public relations, media relations, and employment opportunities. Students critically assess the communication efforts of a sports organization as well as construct their own communications in the field of sport.

**Prerequisite(s):** PR 99.

**Grading:** Graded

*PR 197 - Introduction to Corporate Internal Communication*

*3 unit(s)*

Internal and employee communications from strategy to tactical delivery. Best practices in building internal communication strategies that support organization business goals, as well as raise employee morale, productivity and collaboration. Topics include building internal communication strategy, planning, platform design, tools and strategic messaging campaigns.

**Prerequisite(s):** PR 99.

**Grading:** Graded

*PR 199 - Campaign Planning and Management*

*3 unit(s)*

Creative problem-solving in strategic planning and program management. Conceive, develop and present an integrated communications plan to a "real-world" client.

**Prerequisite(s):** PR 99, PR 190 or PR 191, PR 192, and MCOM 111.

**Grading:** Graded

## School of Music and Dance

**Office:** Music Building 178

**Telephone:** 408-924-4673

### Professors

Janet M. Averett

Brian Belet

Fred S. Cohen, Director

Pablo E. Furman, Associate Director

Diana M. Hollinger

Aaron J. Lington

Gwendolyn Mok

### Associate Professors

Jeffrey Benson

Heather Cooper, Associate Director

Gordon Haramaki

### Assistant Professors

Corie Brown

Erica Buurman

Sarah Jones

Craig McKenzie

Chafin Seymour

# Overview

Located in the heart of Silicon Valley, SJSU's School of Music and Dance is a recognized leader in the performing arts. Accredited by the National Association of Schools of Music (NASM), the National Association of Schools of Dance (NASD), the National Council of Accreditation of Teacher Education (NCATE), and the California Commission on Teacher Credentialing (CCTC), the School produces some of the finest music teachers, composers, performers, and scholars in the world. Our curriculum includes courses in composition, performance, music skills, choreography (for dancers), technology, pedagogy, and improvisation. Student performance organizations include, among others, Concert Choir, Choraliers, Jazz Orchestra, Opera Theater, Wind Ensemble, Symphony Orchestra, and the Spartan Marching Band. Our dance program features a student performing company, UDT, directed by faculty and distinguished guest choreographers. Our music education program produces some of California's leading educators, scholars, and administrators, and our certified music teacher graduates are in particularly high demand.

## Music Honors Program

The Music Honors Program is designed for the superior student who has outstanding talent and scholastic ability. The program is open to senior music majors with a 3.5 average in the major and an overall university grade point average of 3.0. Approval by the student's major advisor and the director is required prior to registering for honors courses. The proposed program may follow one of three general plans: a senior recital with an accompanying project paper (a historical-programmatic essay on the recital content); a major written project on some aspect of history, literature, or music education; or a major project in the field of music composition. Following official school approval, the student will register for three units of directed study in MUSC 190A (1 unit) and MUSC 190B (2 units) under a designated faculty member. The student must maintain a grade point average of 3.5 in the school and a 3.0 overall university grade point average throughout the senior year, and complete MUSC 190A and MUSC 190B to receive departmental honors at the awarding of the baccalaureate degree.

## Undergraduate

### Dance, BA

- School of Music and Dance
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	42
Major Preparation	9
Major Requirements	53
University Electives	16
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C- or better".

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (42 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education

*Met within the major.*

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (9 units)

- DANC 102 - Dance in World Cultures 3 *unit(s)* (V)

### Complete One Course From:

- MUSC 100W - Written Communication II 3 *unit(s)* (Z)
- TA 100W - Writing Workshop: Theatre Arts 3 *unit(s)* (Z)

### Complete One Course From:

- ARTH 15 - Intro to Visual Culture 3 *unit(s)* (C1)
- MUSC 10A - Music Appreciation 3 *unit(s)* (C1)

### Major Requirements (53 units)

#### Dance Technique, Performance and Choreography (36 units)

#### Dance Technique (18 units)

At least nine units must be at level III or IV. All Dance technique classes are repeatable for credit.

- DANC 54 - Topics in Dance Technique II 3 *unit(s)* (PE)
- DANC 154A - Topics in Dance Technique III 3 *unit(s)* (PE)
- DANC 154B - Topics in Dance Technique IV 3 *unit(s)* (PE)

#### Culminating Experience (2 units)

- DANC 198 - Internship in Dance 1-3 *unit(s)*

### Choreography (10 units)

- DANC 43 - Dance Improvisation 1 *unit(s)*
- DANC 145A - Choreography I 3 *unit(s)*
- DANC 145B - Choreography II 3 *unit(s)*
- DANC 145C - Choreography III 3 *unit(s)*

### Performance (6 units)

- DANC 12 - Ensemble Dance Rehearsal and Performance 2 *unit(s)*
- DANC 112 - ENS: Dance Rehearsal and Performance 2 *unit(s)*
- DANC 194 - Dance Repertory Activity 1 *unit(s)* (*Take DANC 194 twice*)

### Theory (17 units)

- DANC 51A - Dance Production 3 *unit(s)*
- DANC 51B - Topics in Dance Crewing 0.5 *unit(s)* (*Students enroll in DANC 51B twice*)
- DANC 75 - Rhythm and Dynamics in Dance 1 *unit(s)*
- DANC 144A - Dance History and Repertory 3 *unit(s)*
- DANC 147A - Dance Seminar 3 *unit(s)*
- DANC 150A - Kinesiology I 3 *unit(s)*
- DANC 150B - Kinesiology II 3 *unit(s)*

### University Electives (16 units)

By advisement: 9 units must be outside of the dance area.

### Total Units Required (120 units)

## Dance, BFA

- School of Music and Dance
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	42
Major Preparation	11
Major Requirements	64
University Electives	3

**Total** **120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (42 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

*Met within the major.*

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (11 units)

- DANC 43 - Dance Improvisation 1 *unit(s)*
- DANC 75 - Rhythm and Dynamics in Dance 1 *unit(s)*
- MUSC 10A - Music Appreciation 3 *unit(s)* (C1)
- MUSC 100W - Written Communication II 3 *unit(s)* (Z) (TA 100W also accepted)
- DANC 102 - Dance in World Cultures 3 *unit(s)* (V)

## Major Requirements (64 units)

### Dance Technique, Performance and Choreography (53 units)

Freshmen must perform at level II in area of option. Minimum of one technique class daily required each semester at SJSU. Level I is prerequisite if unable to perform at level II or higher in Modern, Jazz, Ballet or Tap.

*At least 9 units must be level IV*

### Dance Technique (24 units)

- DANC 54 - Topics in Dance Technique II 3 *unit(s)* (PE)
- DANC 154A - Topics in Dance Technique III 3 *unit(s)* (PE)
- DANC 154B - Topics in Dance Technique IV 3 *unit(s)* (PE)

### Performance Requirements (13 units)



*Any combination of DANC 12, DANC 112 or DANC 194, 4 units must be DANC 112*

- DANC 12 - Ensemble Dance Rehearsal and Performance 2 *unit(s)*
- DANC 112 - ENS: Dance Rehearsal and Performance 2 *unit(s)*
- DANC 194 - Dance Repertory Activity 1 *unit(s)*

### Choreography (9 units)

- DANC 145A - Choreography I 3 *unit(s)*
- DANC 145B - Choreography II 3 *unit(s)*
- DANC 145C - Choreography III 3 *unit(s)*

### Senior Project (3 units)

- DANC 147A - Dance Seminar 3 *unit(s)*

### Production (4 units)

- DANC 51A - Dance Production 3 *unit(s)*
- DANC 51B - Topics in Dance Crewing 0.5 *unit(s)* (*Students will enroll in DANC 51B twice*)

### Theory (11 units)

- DANC 144A - Dance History and Repertory 3 *unit(s)*
- DANC 150A - Kinesiology I 3 *unit(s)*
- DANC 150B - Kinesiology II 3 *unit(s)*
- DANC 151 - Introduction to Dance Pedagogy 2 *unit(s)*

### University Electives (3 units)

Complete 3 units from university electives or from:

- DANC 49A - Topics in Tap Dance I 1 *unit(s)*
- DANC 49B - Topics in Tap Dance II 1 *unit(s)*
- DANC 53 - Techniques in World Dance 1 *unit(s)*
- DANC 54 - Topics in Dance Technique II 3 *unit(s)* (PE)
- DANC 112 - ENS: Dance Rehearsal and Performance 2 *unit(s)*
- DANC 140B - Topics in Modern Dance IV 2 *unit(s)*
- DANC 141B - Topics in Ballet IV 2 *unit(s)*
- DANC 142B - Topics in Jazz Dance IV 2 *unit(s)*
- DANC 148 - Children's Dance 3 *unit(s)*
- DANC 154A - Topics in Dance Technique III 3 *unit(s)* (PE)
- DANC 154B - Topics in Dance Technique IV 3 *unit(s)* (PE)
- DANC 186 - Choreographing the Musical 3 *unit(s)*
- DANC 194 - Dance Repertory Activity 1 *unit(s)*
- DANC 198 - Internship in Dance 1-3 *unit(s)*

## Total Units Required (120 units)

### Music, BA

The Bachelor of Arts in Music, offered by the School of Music and Dance, is designed for the student who seeks a liberal arts education with a major in music. The degree can be tailored to each student. A senior project is required.

An entrance audition is required. All students must complete the core classes and then select electives from at least two categories, in consultation with the BA Music Advisor, and directed toward a specific Capstone project. Four lower-division semesters of applied lessons are required. Ensemble participation is a co-requisite of applied lessons at all times.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Requirements 59

University Electives 23

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements And should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- MUSC 100W - Written Communication II 3 *unit(s)* (Z)

## Major Requirements (59 units)

### Core Courses (43 units)

### Lower Division (31 units)

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 1B - Music Systems IB 1 *unit(s)*
- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 2B - Music Systems IIB 1 *unit(s)*
- MUSC 3A - Music Systems IIIA 2 *unit(s)*
- MUSC 3B - Music Systems IIIB 1 *unit(s)*
- MUSC 4A - Music Systems IVA 2 *unit(s)* (C1)
- MUSC 4B - Music Systems IVB 1 *unit(s)* (C1)
- MUSC 12 - Medieval and Renaissance Music 3 *unit(s)* (C2)
- MUSC 13 - Music Technology 1 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- MUSC 25A - Piano Proficiency I 1 *unit(s)*
- MUSC 25B - Piano Proficiency II 1 *unit(s)*
- MUSC 40A - Jazz Improvisation - I 2 *unit(s)*

### Complete Four Units From:

- MUSC 29X - Electro-Acoustics 1 *unit(s)*
- MUSC 29AX - Applied Electro-Acoustic 1 1 *unit(s)*
- MUSC 29BX - Applied Electro-Acoustic 2 1 *unit(s)*
- MUSC 29CX - Applied Electro-Acoustic 3 1 *unit(s)*
- MUSC 29DX - Applied Electro-Acoustic 4 1 *unit(s)*
- MUSC 30X - Applied Piano 1 *unit(s)*
- MUSC 30AX - Applied Piano 1 1 *unit(s)*
- MUSC 30BX - Applied Piano 2 1 *unit(s)*
- MUSC 30CX - Applied Piano 3 1 *unit(s)*
- MUSC 30DX - Applied Piano 3 1 *unit(s)*
- MUSC 31X - Harpsichord or Organ 1 *unit(s)*
- MUSC 31AX - Harpsichord or Organ 1 1 *unit(s)*
- MUSC 31BX - Harpsichord or Organ 2 1 *unit(s)*
- MUSC 31CX - Harpsichord or Organ 3 1 *unit(s)*
- MUSC 31DX - Harpsichord or Organ 4 1 *unit(s)*
- MUSC 33X - Applied Voice 1 *unit(s)*
- MUSC 33AX - Applied Voice 1 1 *unit(s)*
- MUSC 33BX - Applied Voice 2 1 *unit(s)*
- MUSC 33CX - Applied Voice 3 1 *unit(s)*
- MUSC 33DX - Applied Voice 4 1 *unit(s)*
- MUSC 34X - Strings 1 *unit(s)*
- MUSC 34AX - Strings 1 1 *unit(s)*
- MUSC 34BX - Strings 2 1 *unit(s)*

- MUSC 34CX - Strings 3 *1 unit(s)*
- MUSC 34DX - Strings 4 *1 unit(s)*
- MUSC 35X - Woodwinds 1 *1 unit(s)*
- MUSC 35AX - Woodwinds 1 *1 unit(s)*
- MUSC 35BX - Woodwinds 2 *1 unit(s)*
- MUSC 35CX - Woodwinds 3 *1 unit(s)*
- MUSC 35DX - Woodwinds 4 *1 unit(s)*
- MUSC 36X - Applied Brass *1 unit(s)*
- MUSC 36BX - Brass 1 *1 unit(s)*
- MUSC 36CX - Brass 2 *1 unit(s)*
- MUSC 36DX - Brass 3 *1 unit(s)*
- MUSC 36EX - Brass 4 *1 unit(s)*
- MUSC 37X - Applied Percussion *1 unit(s)*
- MUSC 37AX - Applied Percussion 1 *1 unit(s)*
- MUSC 37BX - Applied Percussion 2 *1 unit(s)*
- MUSC 37CX - Applied Percussion 3 *1 unit(s)*
- MUSC 37DX - Applied Percussion 4 *1 unit(s)*

Complete Four Units From:

- MUSC 50A - ENS: Concert Choir *1 unit(s)*
- MUSC 51 - ENS: University Chorales *1 unit(s)*
- MUSC 52 - ENS: Opera Theater *1 unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra *1 unit(s)*
- MUSC 54 - ENS: Symphonic Band *1 unit(s)*
- MUSC 55 - ENS: Wind Ensemble *1 unit(s)*
- MUSC 57 - ENS: Jazz Orchestra *1 unit(s)*
- MUSC 59 - ENS: Afro-Latin Jazz Ensemble *1 unit(s)*
- MUSC 60A - ENS: Choraliers *1 unit(s)*
- MUSC 60B - ENS: Chamber Orchestra *1 unit(s)*
- MUSC 60C - ENS: Chamber Music *1 unit(s)*
- MUSC 60D - ENS: Collegium Musicum *1 unit(s)*
- MUSC 60E - ENS: Jazz Singers *1 unit(s)*
- MUSC 60F - ENS: Small Jazz Ensembles *1 unit(s)*
- MUSC 60G - ENS: Pep Band *1 unit(s)*
- MUSC 60H - ENS: Percussion Ensemble *1 unit(s)*
- MUSC 60I - ENS: Jazz Ensemble *1 unit(s)*

Upper Division Courses (12 units)

- MUSC 110 - Baroque and Classical Music History *3 unit(s)*
- MUSC 111 - Romantic and Modern Music History *3 unit(s)*
- MUSC 117 - Music and Culture in Latin America *3 unit(s) (V)*
- MUSC 120 - Worlds of Jazz *3 unit(s) (S)*

Music Electives (15 units)

Take 15 Units from at Least Two of the Following Categories. Five units must be upper division. Select courses in consultation with an advisor directed towards one of the capstone projects described below. All students must complete the capstone project under MUSC 182, listed above.

## Theory, Arranging and Composition

- MUSC 102 - Orchestration 3 *unit(s)*
- MUSC 103 - Form and Analysis 3 *unit(s)*
- MUSC 104 - Counterpoint 3 *unit(s)*
- MUSC 109 - Film Scoring Techniques 3 *unit(s)*

## History and Literature

- CA 172 - The Arts in U.S. Society 3 *unit(s)* (S)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- MUSC 116 - Aspects of Twentieth Century Music 3 *unit(s)*
- MUSC 117 - Music and Culture in Latin America 3 *unit(s)* (V)
- MUSC 142 - REP: Art Song Repertoire 1 *unit(s)*
- MUSC 144 - REP: Solo Lit., Performance, Pedagogy 1 *unit(s)*
- MUSC 145 - REP: Performance Concepts 2 *unit(s)*
- MUSC 181 - Concert Listening II 1 *unit(s)*

## Conducting

- MUSC 147A - Beginning Conducting 2 *unit(s)*
- MUSC 147B - Advanced Conducting: Instrumental 2 *unit(s)*
- MUSC 147C - Advanced Conducting: Choral 2 *unit(s)*

## Improvisation

- MUSC 140B - Jazz Improvisation-II 2 *unit(s)*
- MUSC 140C - Jazz Improvisation-III 2 *unit(s)*

## Music Technology

- MUSC 167 - Electro-Acoustic Music I 3 *unit(s)*
- MUSC 168 - Electro-Acoustic Music II 3 *unit(s)*
- MUSC 170A - Fundamentals of Sound Recording 3 *unit(s)*
- MUSC 170B - Intermediate Sound Recording 3 *unit(s)*
- MUSC 180 - Individual Studies 1-2 *unit(s)* (1 *unit* required)

## Beginning Methods and Techniques

- MUSC 25C - Piano Proficiency III 1 *unit(s)*
- MUSC 26A - Voice Fundamentals 1 *unit(s)*
- MUSC 41A - Applied Lyric Diction 1 *unit(s)*

- MUSC 41B - Applied Lyric Diction 1 *unit(s)*
- MUSC 122A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 122B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 125D - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 127A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 127B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*

## Applied Lessons

By audition and special permission from Director.

- MUSC 129 - Electro-Acoustics 1-2 *unit(s)*
- MUSC 129A - Electro-Acoustics 5 1-2 *unit(s)*
- MUSC 129B - Electro-Acoustics 6 1-2 *unit(s)*
- MUSC 129C - Electro-Acoustics 7 1-2 *unit(s)*
- MUSC 129D - Electro-Acoustics 8 1-2 *unit(s)*
- MUSC 130 - Piano 1-2 *unit(s)*
- MUSC 130A - Piano 5 1-2 *unit(s)*
- MUSC 130B - Piano 6 1-2 *unit(s)*
- MUSC 130C - Piano 7 1-2 *unit(s)*
- MUSC 130D - Piano 8 1-2 *unit(s)*
- MUSC 131 - Keyboard 1-2 *unit(s)*
- MUSC 131A - Harpsichord or Organ 5 1-2 *unit(s)*
- MUSC 131B - Harpsichord or Organ 6 1-2 *unit(s)*
- MUSC 131C - Harpsichord or Organ 7 1-2 *unit(s)*
- MUSC 131D - Harpsichord or Organ 8 1-2 *unit(s)*
- MUSC 133 - Voice 1-2 *unit(s)*
- MUSC 133A - Voice 5 1-2 *unit(s)*
- MUSC 133B - Voice 6 1-2 *unit(s)*
- MUSC 133C - Voice 7 1-2 *unit(s)*
- MUSC 133D - Voice 8 1-2 *unit(s)*
- MUSC 134 - Strings 1-2 *unit(s)*
- MUSC 134A - Strings 5 1-2 *unit(s)*
- MUSC 134B - Strings 6 1-2 *unit(s)*
- MUSC 134C - Strings 7 1-2 *unit(s)*
- MUSC 134D - Strings 8 1-2 *unit(s)*
- MUSC 135 - Woodwinds 1-2 *unit(s)*
- MUSC 135A - Woodwinds 5 1-2 *unit(s)*
- MUSC 135B - Woodwinds 6 1-2 *unit(s)*
- MUSC 135C - Woodwinds 7 1-2 *unit(s)*
- MUSC 135D - Woodwinds 8 1-2 *unit(s)*
- MUSC 136 - Brass 1-2 *unit(s)*
- MUSC 136B - Brass 5 1-2 *unit(s)*
- MUSC 136C - Brass 6 1-2 *unit(s)*
- MUSC 136D - Brass 7 1-2 *unit(s)*
- MUSC 136E - Brass 8 1-2 *unit(s)*

- MUSC 137 - Percussion 1-2 *unit(s)*
- MUSC 137A - Percussion 5 1-2 *unit(s)*
- MUSC 137B - Percussion 6 1-2 *unit(s)*
- MUSC 137C - Percussion 7 1-2 *unit(s)*
- MUSC 137D - Percussion 8 1-2 *unit(s)*
- MUSC 139A - Jazz Studies 5 1-2 *unit(s)*
- MUSC 139B - Jazz Studies 6 1-2 *unit(s)*
- MUSC 139C - Jazz Studies 7 1-2 *unit(s)*
- MUSC 139D - Jazz Studies 8 1-2 *unit(s)*

## Chamber Music

Maximum of two units can be counted towards major

- MUSC 60A - ENS: Choraliers 1 *unit(s)*
- MUSC 60D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 60F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 60H - ENS: Percussion Ensemble 1 *unit(s)*
- MUSC 60J - ENS: String Ensemble 1 *unit(s)*
- MUSC 60K - ENS: Brass Ensemble 1 *unit(s)*
- MUSC 60L - ENS: Woodwind Ensemble 1 *unit(s)*
- MUSC 60M - ENS: Saxophone Ensemble 1 *unit(s)*
- MUSC 60O - ENS: Trombone Ensemble 1 *unit(s)*
- MUSC 160A - ENS: Choraliers 1 *unit(s)*
- MUSC 160D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 160H - ENS: Percussion Ensemble 1 *unit(s)*
- MUSC 160J - ENS: String Ensemble 1 *unit(s)*
- MUSC 160K - ENS: Brass Ensemble 1 *unit(s)*
- MUSC 160L - Woodwind Ensemble 1 *unit(s)*
- MUSC 160M - ENS: Saxophone Ensemble 1 *unit(s)*
- MUSC 160O - Trombone Ensemble 1 *unit(s)*

## Ensembles

Maximum of four units. Ensembles required as co-requisite for those receiving applied lessons.

- MUSC 150A - ENS: Concert Choir 1 *unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 154 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 155 - Wind Ensemble 1 *unit(s)*
- MUSC 157 - ENS: Jazz Orchestra 1 *unit(s)*
- MUSC 159 - ENS: Afro-Latin Jazz Ensemble 1 *unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 160I - ENS: Jazz Ensemble 1 *unit(s)*

## Capstone Experience (1 units)



One of the following: undergraduate thesis, lecture/demonstration, or an appropriate project approved by the Director and area coordinator.

- MUSC 182 - Senior Project *1 unit(s)*

## University Electives or Minor (23 units)

All university electives must be taken outside of music.

## Total Units Required (120 units)

# Music, Composition Concentration, BM

SJSU's Composition program, offered by the School of Music and Dance, provides a thorough and diverse exposure to the art of music composition and includes studies in electro-acoustics, recording technology and scoring for film. Private composition lessons are at the heart of this degree program, with many opportunities for students to hear their works performed by students, faculty, and professional musicians. Composition students also meet regularly as a group with faculty and guest composers to hear and discuss their compositions. Students in this program complete both junior and senior projects in addition to the regular course of study.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 36

Major Preparation 11-14

Major Requirements 46

Concentration Requirements 24

University Electives 0-3

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (36 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)

- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (11-14 units)

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- MUSC 100W - Written Communication II 3 *unit(s)* (Z)
- MUSC 120 - Worlds of Jazz 3 *unit(s)* (S)

## Piano Proficiency (0-3 units)

Students must also satisfy piano proficiency; this requirement may be satisfied with completion of:

- MUSC 25A - Piano Proficiency I 1 *unit(s)*
- MUSC 25B - Piano Proficiency II 1 *unit(s)*
- MUSC 25C - Piano Proficiency III 1 *unit(s)*

## Major Requirements (70 units)

### Core Courses (46 units)

- MUSC 1B - Music Systems IB 1 *unit(s)*
- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 2B - Music Systems IIB 1 *unit(s)*
- MUSC 3A - Music Systems IIIA 2 *unit(s)*
- MUSC 3B - Music Systems IIIB 1 *unit(s)*
- MUSC 4A - Music Systems IVA 2 *unit(s)* (C1)
- MUSC 4B - Music Systems IVB 1 *unit(s)* (C1)
- MUSC 12 - Medieval and Renaissance Music 3 *unit(s)* (C2)
- MUSC 110 - Baroque and Classical Music History 3 *unit(s)*
- MUSC 111 - Romantic and Modern Music History 3 *unit(s)*
- MUSC 182 - Senior Project 1 *unit(s)*

### Complete Eight Units From:

- MUSC 30X - Applied Piano 1 *unit(s)*
- MUSC 30AX - Applied Piano 1 1 *unit(s)*

- MUSC 30BX - Applied Piano 2 1 *unit(s)*
- MUSC 30CX - Applied Piano 3 1 *unit(s)*
- MUSC 30DX - Applied Piano 3 1 *unit(s)*
- MUSC 31X - Harpsichord or Organ 1 *unit(s)*
- MUSC 31AX - Harpsichord or Organ 1 1 *unit(s)*
- MUSC 31BX - Harpsichord or Organ 2 1 *unit(s)*
- MUSC 31CX - Harpsichord or Organ 3 1 *unit(s)*
- MUSC 31DX - Harpsichord or Organ 4 1 *unit(s)*
- MUSC 33X - Applied Voice 1 *unit(s)*
- MUSC 33AX - Applied Voice 1 1 *unit(s)*
- MUSC 33BX - Applied Voice 2 1 *unit(s)*
- MUSC 33CX - Applied Voice 3 1 *unit(s)*
- MUSC 33DX - Applied Voice 4 1 *unit(s)*
- MUSC 34X - Strings 1 *unit(s)*
- MUSC 34AX - Strings 1 1 *unit(s)*
- MUSC 34BX - Strings 2 1 *unit(s)*
- MUSC 34CX - Strings 3 1 *unit(s)*
- MUSC 34DX - Strings 4 1 *unit(s)*
- MUSC 35X - Woodwinds 1 1 *unit(s)*
- MUSC 35AX - Woodwinds 1 1 *unit(s)*
- MUSC 35BX - Woodwinds 2 1 *unit(s)*
- MUSC 35CX - Woodwinds 3 1 *unit(s)*
- MUSC 35DX - Woodwinds 4 1 *unit(s)*
- MUSC 36X - Applied Brass 1 *unit(s)*
- MUSC 36BX - Brass 1 1 *unit(s)*
- MUSC 36CX - Brass 2 1 *unit(s)*
- MUSC 36DX - Brass 3 1 *unit(s)*
- MUSC 36EX - Brass 4 1 *unit(s)*
- MUSC 37X - Applied Percussion 1 *unit(s)*
- MUSC 37AX - Applied Percussion 1 1 *unit(s)*
- MUSC 37BX - Applied Percussion 2 1 *unit(s)*
- MUSC 37CX - Applied Percussion 3 1 *unit(s)*
- MUSC 37DX - Applied Percussion 4 1 *unit(s)*
- MUSC 38X - Applied Instruction in Music Composition 1 *unit(s)*
- MUSC 38BX - Applied Instruction in Music Composition 1 1 *unit(s)*
- MUSC 38CX - Applied Instruction in Music Composition 2 1 *unit(s)*
- MUSC 38DX - Applied Instruction in Music Composition 3 1 *unit(s)*
- MUSC 38EX - Applied Instruction in Music Composition 4 1 *unit(s)*
- MUSC 39AX - Jazz: Improvisation, Composition or Arranging 1 1 *unit(s)*
- MUSC 39BX - Jazz: Improvisation, Composition or Arranging 2 1 *unit(s)*
- MUSC 39CX - Jazz: Improvisation, Composition or Arranging 3 1 *unit(s)*
- MUSC 39DX - Jazz: Improvisation, Composition or Arranging 4 1 *unit(s)*

### Complete Eight Units From:

- MUSC 138B - Composition 5 1-2 *unit(s)*
- MUSC 138C - Composition 6 1-2 *unit(s)*

- MUSC 138D - Composition 7 1-2 *unit(s)*
- MUSC 138E - Composition 8 1-2 *unit(s)*

### Complete Four Units From:

- MUSC 50A - ENS: Concert Choir 1 *unit(s)*
- MUSC 52 - ENS: Opera Theater 1 *unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 54 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 55 - ENS: Wind Ensemble 1 *unit(s)*

### Complete Four Units From:

- MUSC 150A - ENS: Concert Choir 1 *unit(s)*
- MUSC 152 - ENS: Opera Theater 1 *unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 154 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 155 - Wind Ensemble 1 *unit(s)*

### Complete Two Units From:

- MUSC 40A - Jazz Improvisation - I 2 *unit(s)*
- MUSC 140B - Jazz Improvisation-II 2 *unit(s)*
- MUSC 140C - Jazz Improvisation-III 2 *unit(s)*
- MUSC 148A - Improvisational Traditions of the World - Africa and Diaspora 2 *unit(s)*
- MUSC 148B - Improvisational Traditions of the World - Asia 2 *unit(s)*

### Composition Concentration (20 units)

- MUSC 102 - Orchestration 3 *unit(s)*
- MUSC 103 - Form and Analysis 3 *unit(s)*
- MUSC 104 - Counterpoint 3 *unit(s)*
- MUSC 147A - Beginning Conducting 2 *unit(s)*
- MUSC 167 - Electro-Acoustic Music I 3 *unit(s)*
- MUSC 168 - Electro-Acoustic Music II 3 *unit(s)*
- MUSC 170A - Fundamentals of Sound Recording 3 *unit(s)*

### Composition Electives (4 units)

Complete four units from:

- MUSC 109 - Film Scoring Techniques 3 *unit(s)*
- MUSC 116 - Aspects of Twentieth Century Music 3 *unit(s)*
- MUSC 122A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 122B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*

- MUSC 125D - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 127A - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 127B - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 160A - ENS: Choraliers 1 unit(s)
- MUSC 160B - ENS: Chamber Orchestra 1 unit(s)
- MUSC 160D - ENS: Collegium Musicum 1 unit(s)
- MUSC 160F - ENS: Small Jazz Ensembles 1 unit(s)
- MUSC 160J - ENS: String Ensemble 1 unit(s)
- MUSC 160K - ENS: Brass Ensemble 1 unit(s)
- MUSC 160L - Woodwind Ensemble 1 unit(s)
- MUSC 160M - ENS: Saxophone Ensemble 1 unit(s)
- MUSC 160O - Trombone Ensemble 1 unit(s)
- MUSC 166 - Physics of Music 3 unit(s) (R)
- MUSC 169 - Digital Synthesis 3 unit(s)
- MUSC 170B - Intermediate Sound Recording 3 unit(s)
- MUSC 170C - Advanced Sound Recording Production 3 unit(s)

## University Electives (0-3 units)

## Total Units Required (120 units)

# Music, Jazz Studies Concentration, BM

The Bachelor of Music, Concentration in Jazz Studies, offered by the School of Music and Dance, is tailored for students intending to pursue careers as professional jazz performers and composers. Emphasis is placed on jazz improvisation, jazz performance styles, jazz arranging/composition, and jazz pedagogy. Students receive in-depth private instruction and many ensembles develop students' abilities as improvising musicians. Additionally, the university's location allows almost limitless opportunities to secure performances in any of the Bay Area's numerous nightspots. Students are required to complete a senior recital in addition to the regular course of study.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 36

Major Preparation 11-14

Major Core Requirements 49

Concentration Requirements 21

University Electives 0-3

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

## Major-Specific Graduation Requirements

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (36 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (11-14 units)

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- MUSC 100W - Written Communication II 3 *unit(s)* (Z)
- MUSC 120 - Worlds of Jazz 3 *unit(s)* (S)

## Piano Proficiency (0-3 units)

Students must also satisfy piano proficiency; this requirement may be satisfied with completion of:

- MUSC 25A - Piano Proficiency I 1 *unit(s)*
- MUSC 25B - Piano Proficiency II 1 *unit(s)*
- MUSC 25C - Piano Proficiency III 1 *unit(s)*

## Major Requirements (70 units)

### Core Courses (49 units)

- MUSC 1B - Music Systems IB 1 *unit(s)*
- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 2B - Music Systems IIB 1 *unit(s)*
- MUSC 3A - Music Systems IIIA 2 *unit(s)*
- MUSC 3B - Music Systems IIIB 1 *unit(s)*



- MUSC 4A - Music Systems IVA 2 *unit(s)* (C1)
- MUSC 4B - Music Systems IVB 1 *unit(s)* (C1)
- MUSC 6 - Jazz Theory 2 *unit(s)*
- MUSC 12 - Medieval and Renaissance Music 3 *unit(s)* (C2)
- MUSC 13 - Music Technology 1 *unit(s)*
- MUSC 27A - Fundamentals of Jazz Keyboard I 1 *unit(s)*
- MUSC 27B - Fundamentals of Jazz Keyboard II 1 *unit(s)*
- MUSC 40A - Jazz Improvisation - I 2 *unit(s)*
- MUSC 110 - Baroque and Classical Music History 3 *unit(s)*
- MUSC 111 - Romantic and Modern Music History 3 *unit(s)*
- MUSC 148A - Improvisational Traditions of the World - Africa and Diaspora 2 *unit(s)*
- MUSC 182 - Senior Project 1 *unit(s)*

### Complete Four Units From:

- MUSC 30X - Applied Piano 1 *unit(s)*
- MUSC 30AX - Applied Piano 1 1 *unit(s)*
- MUSC 30BX - Applied Piano 2 1 *unit(s)*
- MUSC 30CX - Applied Piano 3 1 *unit(s)*
- MUSC 30DX - Applied Piano 3 1 *unit(s)*
- MUSC 33X - Applied Voice 1 *unit(s)*
- MUSC 33AX - Applied Voice 1 1 *unit(s)*
- MUSC 33BX - Applied Voice 2 1 *unit(s)*
- MUSC 33CX - Applied Voice 3 1 *unit(s)*
- MUSC 33DX - Applied Voice 4 1 *unit(s)*
- MUSC 34X - Strings 1 *unit(s)*
- MUSC 34AX - Strings 1 1 *unit(s)*
- MUSC 34BX - Strings 2 1 *unit(s)*
- MUSC 34CX - Strings 3 1 *unit(s)*
- MUSC 34DX - Strings 4 1 *unit(s)*
- MUSC 35X - Woodwinds 1 1 *unit(s)*
- MUSC 35AX - Woodwinds 1 1 *unit(s)*
- MUSC 35BX - Woodwinds 2 1 *unit(s)*
- MUSC 35CX - Woodwinds 3 1 *unit(s)*
- MUSC 35DX - Woodwinds 4 1 *unit(s)*
- MUSC 36X - Applied Brass 1 *unit(s)*
- MUSC 36BX - Brass 1 1 *unit(s)*
- MUSC 36CX - Brass 2 1 *unit(s)*
- MUSC 36DX - Brass 3 1 *unit(s)*
- MUSC 36EX - Brass 4 1 *unit(s)*
- MUSC 37X - Applied Percussion 1 *unit(s)*
- MUSC 37AX - Applied Percussion 1 1 *unit(s)*
- MUSC 37BX - Applied Percussion 2 1 *unit(s)*
- MUSC 37CX - Applied Percussion 3 1 *unit(s)*
- MUSC 37DX - Applied Percussion 4 1 *unit(s)*
- MUSC 38X - Applied Instruction in Music Composition 1 *unit(s)*
- MUSC 38BX - Applied Instruction in Music Composition 1 1 *unit(s)*

- MUSC 38CX - Applied Instruction in Music Composition 2 *1 unit(s)*
- MUSC 38DX - Applied Instruction in Music Composition 3 *1 unit(s)*
- MUSC 38EX - Applied Instruction in Music Composition 4 *1 unit(s)*
- MUSC 39AX - Jazz: Improvisation, Composition or Arranging 1 *1 unit(s)*
- MUSC 39BX - Jazz: Improvisation, Composition or Arranging 2 *1 unit(s)*
- MUSC 39CX - Jazz: Improvisation, Composition or Arranging 3 *1 unit(s)*
- MUSC 39DX - Jazz: Improvisation, Composition or Arranging 4 *1 unit(s)*

### Complete Four Units From:

- MUSC 50A - ENS: Concert Choir *1 unit(s)*
- MUSC 51 - ENS: University Chorales *1 unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra *1 unit(s)*
- MUSC 54 - ENS: Symphonic Band *1 unit(s)*
- MUSC 55 - ENS: Wind Ensemble *1 unit(s)*
- MUSC 57 - ENS: Jazz Orchestra *1 unit(s)*
- MUSC 59 - ENS: Afro-Latin Jazz Ensemble *1 unit(s)*
- MUSC 60F - ENS: Small Jazz Ensembles *1 unit(s)*
- MUSC 60I - ENS: Jazz Ensemble *1 unit(s)*

### Complete Four Units From:

- MUSC 153 - ENS: University Symphony Orchestra *1 unit(s)*
- MUSC 154 - ENS: Symphonic Band *1 unit(s)*
- MUSC 155 - Wind Ensemble *1 unit(s)*
- MUSC 157 - ENS: Jazz Orchestra *1 unit(s)*
- MUSC 159 - ENS: Afro-Latin Jazz Ensemble *1 unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles *1 unit(s)*
- MUSC 160I - ENS: Jazz Ensemble *1 unit(s)*

### Complete Eight Units From:

- MUSC 139A - Jazz Studies 5 *1-2 unit(s)*
- MUSC 139B - Jazz Studies 6 *1-2 unit(s)*
- MUSC 139C - Jazz Studies 7 *1-2 unit(s)*
- MUSC 139D - Jazz Studies 8 *1-2 unit(s)*

### Jazz Studies Concentration (21 units)

- MUSC 102 - Orchestration *3 unit(s)*
- MUSC 104 - Counterpoint *3 unit(s)*
- MUSC 106A - Jazz Arranging I *2 unit(s)*
- MUSC 106B - Jazz Arranging II *2 unit(s)*
- MUSC 140B - Jazz Improvisation-II *2 unit(s)*
- MUSC 140C - Jazz Improvisation-III *2 unit(s)*
- MUSC 167 - Electro-Acoustic Music I *3 unit(s)*

- MUSC 170A - Fundamentals of Sound Recording 3 *unit(s)*

### Complete One Unit From:

- MUSC 60F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 60I - ENS: Jazz Ensemble 1 *unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 160I - ENS: Jazz Ensemble 1 *unit(s)*

### University Electives (0-3 units)

### Total Units Required (120 units)

## Music, Music Education Concentration, BM

Students in the Music Education program complete the subject matter preparation for the California Teaching Credential in Music, K-12.

The BM-Bachelor of Music in Music Education, offered by the School of Music and Dance, is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not wish to complete one of the degree programs, or individuals seeking a single subject credential in subject areas not listed, must pass all portions of the appropriate Commission-approved subject matter examination(s).

Students receive 60-minute weekly lessons every semester in their area of specialty and must participate in the major ensemble of their respective applied area as a co-requisite. In the final semester of applied study, a solo recital of a minimum of 30 minutes of music is required.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 15-18

Major Core Requirements 44

Concentration Requirements 29-30

**Total 124**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (38 units)**

### **Core Lower Division General Education (24 units)**

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (6 units)**

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

#### **African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### **Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)

- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (15-18 units)

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 1B - Music Systems IB 1 *unit(s)*
- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)
- MUSC 28 - Guitar Fundamentals 1 *unit(s)*
- MUSC 100W - Written Communication II 3 *unit(s)* (Z)
- MUSC 120 - Worlds of Jazz 3 *unit(s)* (S)

## Piano Proficiency (0-3 units)

Students must also satisfy piano proficiency; this requirement may be satisfied with completion of:

- MUSC 25A - Piano Proficiency I 1 *unit(s)*
- MUSC 25B - Piano Proficiency II 1 *unit(s)*
- MUSC 25C - Piano Proficiency III 1 *unit(s)*

## Major Requirements (73-74 units)

### Core Courses (44 units)

- MUSC 2B - Music Systems IIB 1 *unit(s)*
- MUSC 3A - Music Systems IIIA 2 *unit(s)*
- MUSC 3B - Music Systems IIIB 1 *unit(s)*

- MUSC 4A - Music Systems IVA 2 *unit(s)* (C1)
- MUSC 4B - Music Systems IVB 1 *unit(s)* (C1)
- MUSC 12 - Medieval and Renaissance Music 3 *unit(s)* (C2)
- MUSC 13 - Music Technology 1 *unit(s)*
- MUSC 110 - Baroque and Classical Music History 3 *unit(s)*
- MUSC 111 - Romantic and Modern Music History 3 *unit(s)*
- MUSC 182 - Senior Project 1 *unit(s)*

### Complete eight units (8 units)

- MUSC 30 - Piano 1-2 *unit(s)*
- MUSC 30A - Piano 1 1-2 *unit(s)*
- MUSC 30B - Piano 2 1-2 *unit(s)*
- MUSC 30C - Piano 3 1-2 *unit(s)*
- MUSC 30D - Piano 4 1-2 *unit(s)*
- MUSC 31 - Harpsichord or Organ 1-2 *unit(s)*
- MUSC 31A - Harpsichord or Organ 1 1-2 *unit(s)*
- MUSC 31B - Harpsichord or Organ 2 1-2 *unit(s)*
- MUSC 31C - Harpsichord or Organ 3 1-2 *unit(s)*
- MUSC 31D - Harpsichord or Organ 4 1-2 *unit(s)*
- MUSC 33 - Voice 1-2 *unit(s)*
- MUSC 33A - Voice 1 1-2 *unit(s)*
- MUSC 33B - Voice 2 1-2 *unit(s)*
- MUSC 33C - Voice 3 1-2 *unit(s)*
- MUSC 33D - Voice 4 1-2 *unit(s)*
- MUSC 34 - Strings 1-2 *unit(s)*
- MUSC 34A - Strings 1 1-2 *unit(s)*
- MUSC 34B - Strings 2 1-2 *unit(s)*
- MUSC 34C - Strings 3 1-2 *unit(s)*
- MUSC 34D - Strings 4 1-2 *unit(s)*
- MUSC 35 - Woodwinds 1-2 *unit(s)*
- MUSC 35A - Woodwinds 1 1-2 *unit(s)*
- MUSC 35B - Woodwinds 2 1-2 *unit(s)*
- MUSC 35C - Woodwinds 3 1-2 *unit(s)*
- MUSC 35D - Woodwinds 4 1-2 *unit(s)*
- MUSC 36 - Brass 1-2 *unit(s)*
- MUSC 36B - Brass 1 1-2 *unit(s)*
- MUSC 36C - Brass 2 1-2 *unit(s)*
- MUSC 36D - Brass 3 1-2 *unit(s)*
- MUSC 36E - Brass 4 1-2 *unit(s)*
- MUSC 37 - Percussion 1-2 *unit(s)*
- MUSC 37A - Percussion 1 1-2 *unit(s)*
- MUSC 37B - Percussion 2 1-2 *unit(s)*
- MUSC 37C - Percussion 3 1-2 *unit(s)*
- MUSC 37D - Percussion 4 1-2 *unit(s)*
- MUSC 38 - Composition 1-2 *unit(s)*
- MUSC 38B - Composition 1 1-2 *unit(s)*

- MUSC 38C - Composition 2 1-2 *unit(s)*
- MUSC 38D - Composition 3 1-2 *unit(s)*
- MUSC 38E - Composition 4 1-2 *unit(s)*
- MUSC 39A - Jazz: Improvisation, Composition or Arranging 1 1-2 *unit(s)*
- MUSC 39B - Jazz: Improvisation, Composition or Arranging 2 1-2 *unit(s)*
- MUSC 39C - Jazz: Improvisation, Composition or Arranging 3 1-2 *unit(s)*
- MUSC 39D - Jazz: Improvisation, Composition and Arranging 4 1-2 *unit(s)*

### Complete eight units (8 units)

- MUSC 130 - Piano 1-2 *unit(s)*
- MUSC 130A - Piano 5 1-2 *unit(s)*
- MUSC 130B - Piano 6 1-2 *unit(s)*
- MUSC 130C - Piano 7 1-2 *unit(s)*
- MUSC 130D - Piano 8 1-2 *unit(s)*
- MUSC 131 - Keyboard 1-2 *unit(s)*
- MUSC 131A - Harpsichord or Organ 5 1-2 *unit(s)*
- MUSC 131B - Harpsichord or Organ 6 1-2 *unit(s)*
- MUSC 131C - Harpsichord or Organ 7 1-2 *unit(s)*
- MUSC 131D - Harpsichord or Organ 8 1-2 *unit(s)*
- MUSC 133 - Voice 1-2 *unit(s)*
- MUSC 133A - Voice 5 1-2 *unit(s)*
- MUSC 133B - Voice 6 1-2 *unit(s)*
- MUSC 133C - Voice 7 1-2 *unit(s)*
- MUSC 133D - Voice 8 1-2 *unit(s)*
- MUSC 134 - Strings 1-2 *unit(s)*
- MUSC 134A - Strings 5 1-2 *unit(s)*
- MUSC 134B - Strings 6 1-2 *unit(s)*
- MUSC 134C - Strings 7 1-2 *unit(s)*
- MUSC 134D - Strings 8 1-2 *unit(s)*
- MUSC 135 - Woodwinds 1-2 *unit(s)*
- MUSC 135A - Woodwinds 5 1-2 *unit(s)*
- MUSC 135B - Woodwinds 6 1-2 *unit(s)*
- MUSC 135C - Woodwinds 7 1-2 *unit(s)*
- MUSC 135D - Woodwinds 8 1-2 *unit(s)*
- MUSC 136 - Brass 1-2 *unit(s)*
- MUSC 136B - Brass 5 1-2 *unit(s)*
- MUSC 136C - Brass 6 1-2 *unit(s)*
- MUSC 136D - Brass 7 1-2 *unit(s)*
- MUSC 136E - Brass 8 1-2 *unit(s)*
- MUSC 137 - Percussion 1-2 *unit(s)*
- MUSC 137A - Percussion 5 1-2 *unit(s)*
- MUSC 137B - Percussion 6 1-2 *unit(s)*
- MUSC 137C - Percussion 7 1-2 *unit(s)*
- MUSC 137D - Percussion 8 1-2 *unit(s)*
- MUSC 138B - Composition 5 1-2 *unit(s)*
- MUSC 138C - Composition 6 1-2 *unit(s)*

- MUSC 138D - Composition 7 1-2 *unit(s)*
- MUSC 138E - Composition 8 1-2 *unit(s)*
- MUSC 139A - Jazz Studies 5 1-2 *unit(s)*
- MUSC 139B - Jazz Studies 6 1-2 *unit(s)*
- MUSC 139C - Jazz Studies 7 1-2 *unit(s)*
- MUSC 139D - Jazz Studies 8 1-2 *unit(s)*

### Complete four units (4 units)

- MUSC 50A - ENS: Concert Choir 1 *unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 54 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 55 - ENS: Wind Ensemble 1 *unit(s)*

### Complete four units (4 units)

- MUSC 150A - ENS: Concert Choir 1 *unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 154 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 155 - Wind Ensemble 1 *unit(s)*

### Complete two units (2 units)

- MUSC 40A - Jazz Improvisation - I 2 *unit(s)*
- MUSC 140B - Jazz Improvisation-II 2 *unit(s)*
- MUSC 140C - Jazz Improvisation-III 2 *unit(s)*
- MUSC 148A - Improvisational Traditions of the World - Africa and Diaspora 2 *unit(s)*
- MUSC 148B - Improvisational Traditions of the World - Asia 2 *unit(s)*

## Music Education Concentration (29-30 units)

Select an area specialization from either the Instrumental or the Choral/General below. All students must take the Common Courses below.

### Common Courses (15-16 units)

- MUSC 103 - Form and Analysis 3 *unit(s)*
- MUSC 147A - Beginning Conducting 2 *unit(s)*
- MUED 140 - Foundations of Music Education 3 *unit(s)*
- MUED 142 - Introduction to Music Education: Early Field Experience 1 *unit(s)*

### Complete one course (2 units)

- MUSC 147B - Advanced Conducting: Instrumental 2 *unit(s)*
- MUSC 147C - Advanced Conducting: Choral 2 *unit(s)*



- By advisement select two units of large or chamber ensemble outside of major performing area to satisfy breadth requirement 2 *unit(s)*

#### Complete one course (2-3 units)

- MUSC 102 - Orchestration 3 *unit(s)*
- MUSC 106A - Jazz Arranging I 2 *unit(s)*
- MUSC 106B - Jazz Arranging II 2 *unit(s)*

#### Instrumental (14 units)

- MUSC 26A - Voice Fundamentals 1 *unit(s)*
- MUSC 122A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 122B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 125D - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 126 - Marching Band Techniques 1 *unit(s)*
- MUSC 127A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 127B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUED 170A - Teaching Instrumental Music 2 *unit(s)*
- MUED 175 - Practicum in Music Education 3 *unit(s)*

#### Choral/General (14 units)

- MUSC 41A - Applied Lyric Diction 1 *unit(s)*
- MUSC 41B - Applied Lyric Diction 1 *unit(s)*
- MUSC 122A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 123A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 125D - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 185A - Music for Children 3 *unit(s)*
- MUED 170B - Teaching Choral Music 2 *unit(s)*
- MUED 175 - Practicum in Music Education 3 *unit(s)*

#### Complete one course (1 unit)

- MUSC 127A - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*
- MUSC 127B - Fundamental Techniques and Literature: Instrumental 1 *unit(s)*

#### Total Units Required (126 units)

## Music, Performance Concentration, BM

The Bachelor of Music, Concentration in Performance, offered by the School of Music and Dance, is designed for students intending to pursue careers as professional singers or instrumentalists. In addition to the core music courses, the program includes weekly 60-minute private lessons and participation in large ensembles such as choirs,

bands, symphony orchestra, and opera theater. Students also perform regularly as soloists and as chamber musicians, both in closed studio classes and in public recitals. In addition to their regular course of study, students are required to present both junior and senior recitals.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 36

Major Preparation 11-14

Major Requirements 53

Applied Area 17

University Electives 0-3

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All courses in the preparation and major (all courses in preparation, and core) must be completed with a grade of "C or better".

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (36 units)**

### **Core Lower Division General Education (24 units)**

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (11-14 units)

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 19 - Music in World Cultures 3 *unit(s)* (C1)

- MUSC 100W - Written Communication II 3 *unit(s)* (Z)
- MUSC 120 - Worlds of Jazz 3 *unit(s)* (S)

## Piano Proficiency (0-3 units)

Students must also satisfy piano proficiency; this requirement may be satisfied with completion of:

- MUSC 25A - Piano Proficiency I 1 *unit(s)*
- MUSC 25B - Piano Proficiency II 1 *unit(s)*
- MUSC 25C - Piano Proficiency III 1 *unit(s)*

## Major Requirements (70 units)

### Core Courses (53 units)

- MUSC 1B - Music Systems IB 1 *unit(s)*
- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 2B - Music Systems IIB 1 *unit(s)*
- MUSC 3A - Music Systems IIIA 2 *unit(s)*
- MUSC 3B - Music Systems IIIB 1 *unit(s)*
- MUSC 4A - Music Systems IVA 2 *unit(s)* (C1)
- MUSC 4B - Music Systems IVB 1 *unit(s)* (C1)
- MUSC 12 - Medieval and Renaissance Music 3 *unit(s)* (C2)
- MUSC 13 - Music Technology 1 *unit(s)*
- MUSC 40A - Jazz Improvisation - I 2 *unit(s)*
- MUSC 110 - Baroque and Classical Music History 3 *unit(s)*
- MUSC 111 - Romantic and Modern Music History 3 *unit(s)*
- MUSC 182 - Senior Project 1 *unit(s)*

### Complete Six Units From:

- MUSC 102 - Orchestration 3 *unit(s)*
- MUSC 103 - Form and Analysis 3 *unit(s)*
- MUSC 104 - Counterpoint 3 *unit(s)*

### Complete Eight Units From:

- MUSC 30 - Piano 1-2 *unit(s)*
- MUSC 30A - Piano 1 1-2 *unit(s)*
- MUSC 30B - Piano 2 1-2 *unit(s)*
- MUSC 30C - Piano 3 1-2 *unit(s)*
- MUSC 30D - Piano 4 1-2 *unit(s)*
- MUSC 31 - Harpsichord or Organ 1-2 *unit(s)*
- MUSC 31A - Harpsichord or Organ 1 1-2 *unit(s)*
- MUSC 31B - Harpsichord or Organ 2 1-2 *unit(s)*
- MUSC 31C - Harpsichord or Organ 3 1-2 *unit(s)*

- MUSC 31D - Harpsichord or Organ 4 1-2 *unit(s)*
- MUSC 33 - Voice 1-2 *unit(s)*
- MUSC 33A - Voice 1 1-2 *unit(s)*
- MUSC 33B - Voice 2 1-2 *unit(s)*
- MUSC 33C - Voice 3 1-2 *unit(s)*
- MUSC 33D - Voice 4 1-2 *unit(s)*
- MUSC 34 - Strings 1-2 *unit(s)*
- MUSC 34A - Strings 1 1-2 *unit(s)*
- MUSC 34B - Strings 2 1-2 *unit(s)*
- MUSC 34C - Strings 3 1-2 *unit(s)*
- MUSC 34D - Strings 4 1-2 *unit(s)*
- MUSC 35 - Woodwinds 1-2 *unit(s)*
- MUSC 35A - Woodwinds 1 1-2 *unit(s)*
- MUSC 35B - Woodwinds 2 1-2 *unit(s)*
- MUSC 35C - Woodwinds 3 1-2 *unit(s)*
- MUSC 35D - Woodwinds 4 1-2 *unit(s)*
- MUSC 36 - Brass 1-2 *unit(s)*
- MUSC 36B - Brass 1 1-2 *unit(s)*
- MUSC 36C - Brass 2 1-2 *unit(s)*
- MUSC 36D - Brass 3 1-2 *unit(s)*
- MUSC 36E - Brass 4 1-2 *unit(s)*
- MUSC 37 - Percussion 1-2 *unit(s)*
- MUSC 37A - Percussion 1 1-2 *unit(s)*
- MUSC 37B - Percussion 2 1-2 *unit(s)*
- MUSC 37C - Percussion 3 1-2 *unit(s)*
- MUSC 37D - Percussion 4 1-2 *unit(s)*

### Complete Eight Units From:

- MUSC 130 - Piano 1-2 *unit(s)*
- MUSC 130A - Piano 5 1-2 *unit(s)*
- MUSC 130B - Piano 6 1-2 *unit(s)*
- MUSC 130C - Piano 7 1-2 *unit(s)*
- MUSC 130D - Piano 8 1-2 *unit(s)*
- MUSC 131 - Keyboard 1-2 *unit(s)*
- MUSC 131A - Harpsichord or Organ 5 1-2 *unit(s)*
- MUSC 131B - Harpsichord or Organ 6 1-2 *unit(s)*
- MUSC 131C - Harpsichord or Organ 7 1-2 *unit(s)*
- MUSC 131D - Harpsichord or Organ 8 1-2 *unit(s)*
- MUSC 133 - Voice 1-2 *unit(s)*
- MUSC 133A - Voice 5 1-2 *unit(s)*
- MUSC 133B - Voice 6 1-2 *unit(s)*
- MUSC 133C - Voice 7 1-2 *unit(s)*
- MUSC 133D - Voice 8 1-2 *unit(s)*
- MUSC 134 - Strings 1-2 *unit(s)*
- MUSC 134A - Strings 5 1-2 *unit(s)*
- MUSC 134B - Strings 6 1-2 *unit(s)*

- MUSC 134C - Strings 7 1-2 *unit(s)*
- MUSC 134D - Strings 8 1-2 *unit(s)*
- MUSC 135 - Woodwinds 1-2 *unit(s)*
- MUSC 135A - Woodwinds 5 1-2 *unit(s)*
- MUSC 135B - Woodwinds 6 1-2 *unit(s)*
- MUSC 135C - Woodwinds 7 1-2 *unit(s)*
- MUSC 135D - Woodwinds 8 1-2 *unit(s)*
- MUSC 136 - Brass 1-2 *unit(s)*
- MUSC 136B - Brass 5 1-2 *unit(s)*
- MUSC 136C - Brass 6 1-2 *unit(s)*
- MUSC 136D - Brass 7 1-2 *unit(s)*
- MUSC 136E - Brass 8 1-2 *unit(s)*
- MUSC 137 - Percussion 1-2 *unit(s)*
- MUSC 137A - Percussion 5 1-2 *unit(s)*
- MUSC 137B - Percussion 6 1-2 *unit(s)*
- MUSC 137C - Percussion 7 1-2 *unit(s)*
- MUSC 137D - Percussion 8 1-2 *unit(s)*

### Complete Four Units From:

- MUSC 50A - ENS: Concert Choir 1 *unit(s)*
- MUSC 52 - ENS: Opera Theater 1 *unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 54 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 55 - ENS: Wind Ensemble 1 *unit(s)*

### Complete Four Units From:

- MUSC 150A - ENS: Concert Choir 1 *unit(s)*
- MUSC 152 - ENS: Opera Theater 1 *unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 154 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 155 - Wind Ensemble 1 *unit(s)*

## Applied Area (17 units)

Choose an area of specialization below. Area specializations are a cluster of courses departments use for advising purposes, they will not appear on transcripts or diplomas. See Advisor for more details.

### Voice

*Voice students must complete a language proficiency in either Italian or French. This may be satisfied with four years of secondary study, a proficiency exam, or one year of college study*

- MUSC 41A - Applied Lyric Diction 1 *unit(s)*
- MUSC 41B - Applied Lyric Diction 1 *unit(s)*
- MUSC 142 - REP: Art Song Repertoire 1 *unit(s)* (*Students must take MUSC 142 twice for a total of 2 units.*)

- MUSC 144 - REP: Solo Lit., Performance, Pedagogy 1 unit(s) *(Students must take MUSC 144 two times for a total of 2 units.)*
- MUSC 146 - Introduction to Applied Music Pedagogy 2 unit(s)
- MUSC 147A - Beginning Conducting 2 unit(s)

Complete Seven Units by Advisement From:

- FREN 1X - Elementary French Individualized 1-5 unit(s)
- ITAL 1X - Elementary Italian - Individualized Learning 1-5 unit(s)
- MUSC 52 - ENS: Opera Theater 1 unit(s) *(2 units required)*
- MUSC 60A - ENS: Choraliers 1 unit(s)
- MUSC 60D - ENS: Collegium Musicum 1 unit(s)
- MUSC 61 - REP: Styles and Interpretation of Opera I 1 unit(s)
- MUSC 63 - REP: Styles and Interpretation of Opera II 1 unit(s)
- MUSC 102 - Orchestration 3 unit(s)
- MUSC 103 - Form and Analysis 3 unit(s)
- MUSC 104 - Counterpoint 3 unit(s)
- MUSC 116 - Aspects of Twentieth Century Music 3 unit(s)
- MUSC 124 - Special Topics in Music History/Literature 1-3 unit(s)
- MUSC 147B - Advanced Conducting: Instrumental 2 unit(s)
- MUSC 147C - Advanced Conducting: Choral 2 unit(s)
- MUSC 152 - ENS: Opera Theater 1 unit(s)
- MUSC 160A - ENS: Choraliers 1 unit(s)
- MUSC 160D - ENS: Collegium Musicum 1 unit(s)
- MUSC 161 - REP: Styles and Interpretation of Opera I 1 unit(s)
- MUSC 163 - REP: Styles and Interpretation of Opera II 1 unit(s) *(1-2 units required)*
- MUSC 180 - Individual Studies 1-2 unit(s)
- MUSC 190A - Honors Project 1 unit(s)
- MUSC 190B - Honors Project 2 unit(s)

Keyboard (17 units)

- MUSC 144 - REP: Solo Lit., Performance, Pedagogy 1 unit(s) *(Students must take MUSC 144 four times for a total of 4 units. Junior and senior piano majors may use MUSC 160C or MUSC 143 as a substitution for the major ensemble requirement.)*
- MUSC 145 - REP: Performance Concepts 2 unit(s) *(Students must take MUSC 145 twice for a total of 4 units.)*
- MUSC 146 - Introduction to Applied Music Pedagogy 2 unit(s)
- MUSC 146A - Pedagogy - Piano 2 unit(s)
- MUSC 147A - Beginning Conducting 2 unit(s)

Complete Three Units by Advisement From:

- MUSC 60C - ENS: Chamber Music 1 unit(s)
- MUSC 60D - ENS: Collegium Musicum 1 unit(s)
- MUSC 102 - Orchestration 3 unit(s)
- MUSC 103 - Form and Analysis 3 unit(s)
- MUSC 104 - Counterpoint 3 unit(s)

- MUSC 116 - Aspects of Twentieth Century Music 3 *unit(s)*
- MUSC 124 - Special Topics in Music History/Literature 1-3 *unit(s)*
- MUSC 143 - REP: Collaborative Keyboard Performance 1 *unit(s)*
- MUSC 144 - REP: Solo Lit., Performance, Pedagogy 1 *unit(s)*
- MUSC 145 - REP: Performance Concepts 2 *unit(s)*
- MUSC 147B - Advanced Conducting: Instrumental 2 *unit(s)*
- MUSC 160C - ENS: Chamber Music 1 *unit(s)*
- MUSC 160D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 180 - Individual Studies 1-2 *unit(s)*
- MUSC 190A - Honors Project 1 *unit(s)*
- MUSC 190B - Honors Project 2 *unit(s)*

### Symphonic Instrumental

- MUSC 146 - Introduction to Applied Music Pedagogy 2 *unit(s)*
- MUSC 147A - Beginning Conducting 2 *unit(s)*

### Complete Six Units by Advisement From:

- MUSC 60B - ENS: Chamber Orchestra 1 *unit(s)*
- MUSC 60C - ENS: Chamber Music 1 *unit(s)*
- MUSC 60D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 60H - ENS: Percussion Ensemble 1 *unit(s)*
- MUSC 60J - ENS: String Ensemble 1 *unit(s)*
- MUSC 60K - ENS: Brass Ensemble 1 *unit(s)*
- MUSC 60L - ENS: Woodwind Ensemble 1 *unit(s)*
- MUSC 60M - ENS: Saxophone Ensemble 1 *unit(s)*
- MUSC 160B - ENS: Chamber Orchestra 1 *unit(s)*
- MUSC 160C - ENS: Chamber Music 1 *unit(s)*
- MUSC 160D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 160H - ENS: Percussion Ensemble 1 *unit(s)*
- MUSC 160J - ENS: String Ensemble 1 *unit(s)*
- MUSC 160K - ENS: Brass Ensemble 1 *unit(s)*
- MUSC 160L - Woodwind Ensemble 1 *unit(s)*
- MUSC 160M - ENS: Saxophone Ensemble 1 *unit(s)*

### Complete Seven Units by Advisement From:

- MUSC 102 - Orchestration 3 *unit(s)*
- MUSC 103 - Form and Analysis 3 *unit(s)*
- MUSC 104 - Counterpoint 3 *unit(s)*
- MUSC 116 - Aspects of Twentieth Century Music 3 *unit(s)*
- MUSC 117 - Music and Culture in Latin America 3 *unit(s)* (V)
- MUSC 124 - Special Topics in Music History/Literature 1-3 *unit(s)*
- MUSC 140B - Jazz Improvisation-II 2 *unit(s)*
- MUSC 140C - Jazz Improvisation-III 2 *unit(s)*
- MUSC 147B - Advanced Conducting: Instrumental 2 *unit(s)*



- MUSC 147C - Advanced Conducting: Choral 2 *unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra 1 *unit(s)*
- MUSC 154 - ENS: Symphonic Band 1 *unit(s)*
- MUSC 155 - Wind Ensemble 1 *unit(s)*
- MUSC 157 - ENS: Jazz Orchestra 1 *unit(s)*
- MUSC 159 - ENS: Afro-Latin Jazz Ensemble 1 *unit(s)*
- MUSC 160C - ENS: Chamber Music 1 *unit(s)*
- MUSC 160D - ENS: Collegium Musicum 1 *unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles 1 *unit(s)*
- MUSC 160J - ENS: String Ensemble 1 *unit(s)*
- MUSC 160L - Woodwind Ensemble 1 *unit(s)*
- MUSC 160M - ENS: Saxophone Ensemble 1 *unit(s)*
- MUSC 160O - Trombone Ensemble 1 *unit(s)*
- MUSC 170A - Fundamentals of Sound Recording 3 *unit(s)*
- MUSC 180 - Individual Studies 1-2 *unit(s)*
- MUSC 190A - Honors Project 1 *unit(s)*
- MUSC 190B - Honors Project 2 *unit(s)*

## University Electives (0-3 units)

## Total Units Required (120 units)

# Master

## Music Education, MA

**Advisor:** Diana Hollinger

The Master of Arts in Music Education, offered by the School of Music and Dance, is designed for the student with a career goal in music education. It provides a broad foundation in educational philosophy, theory, and history in research and practice for a solid grounding for continuing work in K-12 education, community music, and other pursuits, and as preparation for further advanced study. The MA in Music Education is a two-year, 30- unit program focusing on a one-on-one study with an advisor, courses, and practicums in education theory, issues and research in conjunction with seminars in music research and writing, music history, and music theory. The degree culminates with the Written Culminating Exams (WCE), and the completion of a music education thesis (Plan A) or project (Plan B).

## Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow the special session fees and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or the program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

Additional information is available in the School of Music & Dance Office and at the department website: [www.sjsu.edu/music](http://www.sjsu.edu/music).

## Admissions Requirements

You will need to apply separately to the university to obtain approval for graduate admissions and to the department to obtain admission into the Master of Arts - Music Education. The School of Music and Dance graduate program requires applicants to have a bachelor's degree in Music from a regionally accredited institution and to be in good academic standing at the last college or university attended. In rare circumstances, students with degrees in non-music areas who demonstrate artistic potential for graduate study in Music may be admitted to the program. The School of Music and Dance requires a minimum GPA of 3.00 in the last 60 units of undergraduate coursework. All required transcripts and supporting documents should be sent directly to the university.

Students from a country where the official language was not English are required to submit a TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or International English Language Testing System (IELTS) score. The minimum entrance score for the TOEFL is 590 (paper-based), 243 (computer-based), or 96 (internet-based), with a score of 5 in the Writing Section. The minimum score for the PTE is 68; for the IELTS, the minimum score is 7.0. All test scores must be less than 2 years old. Test scores must be sent directly from the Educational Testing Service office (institution code 4687), Pearson Office, or IELTS office directly to SJSU.

The School of Music and Dance does not require the GRE (Graduate Record Exam).

## Portfolio and Letters of Recommendation

The submission of a portfolio of work is required including a curriculum vitae, video recording of a teaching episode, statement of teaching philosophy, and a sample undergraduate term paper on an education topic. An interview is also required. Please see the School of Music and Dance website for specific requirements.

The School of Music and Dance requires three letters of recommendation addressing the applicant's potential for graduate-level work in music to be sent to the Music Education area advisor.

## Admission to Classified Standing

Graduate students admitted to the School of Music and Dance are usually admitted in "conditionally classified" status. This status is normal for all entering graduate students, who must demonstrate a bachelor's level competence in music history and music theory by passing the Graduate Entrance Evaluations given during Pre-Instruction before the start of the fall semester. Students who pass their Entrance Evaluations may then become "graduate classified" and are eligible to take all 200-level graduate seminars after completing MUSC 200. Students who fail portions of the Evaluation will remain conditionally classified and will be required to remediate with the appropriate coursework before taking graduate seminars beyond MUSC 200. Coursework taken as remediation is not applied to the Master's degree requirement units.

Students who fail the entire Entrance Evaluation will not be admitted into the program.

Please see "Graduate Program Test Requirements" for more information.

## Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MA. In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Advancement to candidacy requires that the student be in good standing with a 3.0 GPA or better in a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses in the degree program as indicated by all courses on the Petition for Advancement to Graduate Candidacy form. These courses must conform to university and departmental requirements, and the area and graduate advisors must approve the proposed program. The proposed program must list a total of 30 semester units, including the appropriate number of "core" courses, area specialization courses, required ensembles, and supervised graduate study.

The student must be "graduate classified" and have met and cleared their conditions for admission to the program indicated by their results in the Graduate Entrance Evaluation in music history and music systems/theory. Candidacy also includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which in the School of Music & Dance is MUSC 200 - Methods of Music Research & Writing.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA - Music Education

**Thesis:** In Plan A, six units are devoted to the preparation and writing of a thesis guided by the candidate's major professor and approved by a committee. After final approval by the advisor and thesis committee, the thesis is submitted to Graduate Studies for review. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The successfully reviewed thesis is then submitted for publication.

**Project:** In Plan B, six units are devoted to the preparation and production of a written project.

**Written Culminating Exams (WCE):** At the end of their studies, students demonstrate their thorough grasp of music history, music systems/theory, and their field of specialization through the Written Culminating Exams (WCE). Students must pass all sections of the examination to be awarded their master's degree

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

#### Master's Requirements (30 units)

##### Core Courses (15 units)

- MUSC 200 - Methods of Music Research & Writing 3 *unit(s)* (GWAR)
- MUSC 201 - Seminar in Music History 3 *unit(s)*
- MUSC 202 - Seminar in Music Systems & Theory 3 *unit(s)*

### Complete Two Courses From:

- MUED 221 - Foundations of Music Education 3 *unit(s)*
- MUED 228 - Research in Music Education 3 *unit(s)*
- MUED 232 - Directions and Issues in Music Education 3 *unit(s)*

### Area of Specialization (9 units)

- Nine units of 200-level graduate and approved 100-level elective courses in area specialization 9 *unit(s)*

### Culminating Experience (6 units)

- Written Culminating Exam 0 *unit(s)*

### Choose One Plan From:

#### Plan A

- MUSC 299 - Master's Thesis, Recital or Composition 1-3 *unit(s)* (6 *units required*)

#### Plan B

- MUSC 224 - Supervised Graduate Study 1-2 *unit(s)* (6 *units required*)

### Total Units Required (30 units)

Elective courses must be planned in consultation with the area coordinator and the School of Music & Dance Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Music, MM

The Master of Music graduate program in the School of Music and Dance offers training for careers in performance, conducting, composition, research, and teaching. We also provide preparation for further advanced study in ten distinct areas:

- Composition
- Choral conducting
- Instrumental conducting
- Instrumental performance
- Jazz studies
- Keyboard studies
- Music education

- Music history
- Music systems/theory
- Vocal performance

Our MM, Music degree program is a 30-unit course of study, typically taken in four semesters over two years, and consists of graduate seminars, one-on-one private lessons, performance ensembles, and area specialization coursework. The program culminates with the master's exam and the completion of a graduate recital, project, thesis, or music composition.

Additional information is available in the School of Music & Dance Office and at the department website: [www.sjsu.edu/music](http://www.sjsu.edu/music).

## Admission Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MM, Music program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

### Requirements for Admission to the Program

You will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the Master of Music Program. The School of Music and Dance graduate program requires applicants to have a bachelor's degree in Music from a regionally accredited institution and to be in good academic standing at the last college or university attended. The School of Music and Dance requires a minimum GPA of 3.00 in the last 60 units of undergraduate coursework. All required transcripts and supporting documents should be sent directly to the university.

Students from a country where the official language is not English are required to submit a TOEFL (Test of English as a Foreign Language), PTE (Pearson Test of English), or International English Language Testing System (IELTS) score. The minimum entrance score for the TOEFL is 590 (paper-based), 243 (computer-based), or 96 (internet-based), with a score of 5 in the Writing Section. The minimum score for the PTE is 68; for the IELTS, the minimum score is 7.0. All test scores must be less than 2 years old. Test scores must be sent directly from the Educational Testing Service office (institution code 4687), Pearson Office, or IELTS office directly to SJSU.

The School of Music and Dance does not require the GRE (Graduate Record Exam).

### Audition, Portfolio, Interview

Conducting and Performance: a live (preferred) or unedited recorded audition is required for conducting and performance specializations. Please see the School of Music and Dance website for specific requirements of individual performance areas.

Composition, Education, History, Systems/Theory: the submission of a portfolio of work is required for all academic specializations. Please see the School of Music and Dance website for specific requirements of individual academic areas.

Individual areas may also require an interview.

## Letters of Recommendation

The School of Music and Dance requires three letters of recommendation addressing the applicant's potential for graduate-level work in music to be sent to the appropriate performance area advisor.

## Admission to Classified Standing

Graduate students admitted to the School of Music and Dance are usually admitted in "conditionally classified" status. This status is normal for all entering graduate students, who must demonstrate a bachelor's level competence in music history and music theory by passing the Graduate Entrance Evaluations given during Pre-Instruction before the start of the fall semester. Students who pass their Entrance Evaluations may then become "graduate classified" and are eligible to take all 200-level graduate seminars after completing MUSC 200. Students who fail one or more portions of the Evaluation will remain conditionally classified and will be required to remediate with the appropriate coursework before taking graduate seminars beyond MUSC 200. Coursework taken as remediation is not applied to the Master's degree requirement units.

Students who fail the entire Entrance Evaluation will not be admitted into the program.

Please see the "Graduate Program Test Requirements" for more information

## Requirements for Advancement to Candidacy

Candidacy denotes that the student is fully qualified to complete the final stages of the MM. In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the Master's degree are detailed in the Graduate Policies and Procedures section. Advancement to candidacy requires that the student be in good standing with a 3.0 GPA or better in a minimum of 9 units of letter-graded coursework as a graduate student in 100- or 200-level courses in the degree program as indicated by all courses on the Petition for Advancement to Graduate Candidacy form. These courses must conform to university and departmental requirements, and the area and graduate advisors must approve the proposed program. The proposed program must list a total of 30 semester units, including the appropriate number of "core" courses, area specialization courses, required ensembles, and supervised graduate study.

The student must be "graduate classified" and have met and cleared their conditions for admission to the program indicated by their results in the Graduate Entrance Evaluation in music history and music systems/theory. Candidacy also includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which in the School of Music & Dance is MUSC 200 - Methods of Music Research & Writing.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Course Requirements for the Master's Degree

The Music master's degree is based on 12 units of four "core" graduate seminars, beginning with MUSC 200 - Methods of Music Research & Writing, and 12 units of area courses and ensembles. Students with the academic specializations (Plan A), 6 units of thesis/composition supervision are taken in preparation for completing a thesis or composition. Students in performance specializations (Plan B), 6 units of private lessons with an individual teacher are taken in preparation for their master's recital or project. All required prerequisite course work must be passed with a grade of "B" or better and a minimum 3.0 GPA must be maintained in order to continue with the graduate program. To complete the program, students take their Written Culminating Exams (WCE) in their final semester.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students choose a Plan A (Thesis), Plan B (Project), or Plan C (Creative Project - Composition or Recital) option as their program culminating experience. All students must also successfully complete the Written Culminating Exams (WCE)

### Plan A (Thesis)

In Plan A (Thesis), six units of MUSC 299 - Master's Thesis, Recital or Composition are devoted to the preparation and writing of an advisor-approved thesis on a topic approved by the candidate's major professor. Students choosing the thesis option must secure the commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) committee, with one permanent faculty member agreeing to serve as chair. After final approval by the major advisor and thesis committee members, the thesis is submitted to Graduate Studies. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

### Plan B (Project)

In Plan B (Project), six units are devoted to the preparation and production of a written project.

### Plan C (Creative Project - Composition or Recital)

In Plan C (Creative Project), six units are devoted to the preparation of a music composition approved by the candidate's major professor, or the preparation and performance of one or more master's recitals. Performance candidates will perform one or two recitals (by advisement) of repertoire approved by the candidate's advisor. These performances are recorded, and the recording and a hard copy of the recital program are submitted to the School of Music and Dance. Students must be in "graduate classified" status to perform their recital.

### Written Culminating Exam (WCE)

At the end of their studies, all MM, Music students must demonstrate their thorough grasp of their field of specialization, music history, and music theory through the Written Culminating Exams (WCE). Students must pass all sections of the examination to be awarded their master's degrees. The examination consists of three essay questions, which will concern subjects in (1) the student's major field (piano, composition, etc.), (2) the information

covered in the student's MUSC 201 history class; and (3) the information covered in the student's MUSC 202 theory class. The essay questions will be written by the major instructor and by the professors who taught the student MUSC 201 and MUSC 202. The examination will be given in the middle of the semester. If students are enrolled in MUSC 201 and/or MUSC 202 during their last semester, the essay question(s) will cover the material covered in class to that date. Students have two weeks to complete the examination, which is open book. Students are required to research their topics but cannot work with other students or any other persons on their examination. Each essay must represent only the student's work, and students must sign a declaration on the cover sheet that the essays represent only their own research and writing. Each essay must be 4-6 pp. in length, typed, and double-spaced. Either footnotes or endnotes must be used in correct format to identify all sources. Failure to demonstrate knowledge of correct bibliographic citation will result in a failure in the examination. Students will be notified two weeks after the examinations are turned in if they have passed or failed. If the student fails, the examination may be retaken one time upon consultation with the Graduate Advisor. The examinations will be filed in the student's School file.

It is the student's responsibility to inform the Graduate Advisor at the beginning of his or her last semester that he or she needs to take the WCE that semester. The Graduate Advisor will ask for the names of the three professors who will be writing the examination questions, and will assign the dates for the examination. The Graduate Advisor will request the essay questions from your professors and give you the examination on the appointed date.

## Master's Requirements (30 units)

### Core Courses (12 units)

- MUSC 200 - Methods of Music Research & Writing 3 *unit(s)* (GWAR)
- MUSC 201 - Seminar in Music History 3 *unit(s)*
- MUSC 202 - Seminar in Music Systems & Theory 3 *unit(s)*

### Complete One Course From:

- MUSC 203 - Seminar in Style & Performance Practices 3 *unit(s)*
- MUSC 220 - Seminar in Advanced Conducting 3 *unit(s)*
- MUSC 221 - Seminar in Jazz History 3 *unit(s)*

## Area Specialization (12 units)

### Composition

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0 *unit(s)*

### Music History

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0 *unit(s)*

### Music Theory

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization 0 *unit(s)*

### Music Education



- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Choral Conducting

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Instrumental Conducting

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Jazz Studies

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Performance: Woodwinds, Brass & Percussion

- Twelve units of 200-level graduate courses in area specialization *0 unit(s)*

### Performance: Piano

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Performance: Voice

- Twelve units of graduate 200-level and approved 100-level elective courses in area specialization *0 unit(s)*

### Culminating Experience (6 units)

#### **Choose One Plan From:**

#### Plan A (Thesis)

- MUSC 299 - Master's Thesis, Recital or Composition *1-3 unit(s) (3 units in each of two final semesters)*
- Written Culminating Exam *0 unit(s)*

#### Plan B (Project)

- MUSC 224 - Supervised Graduate Study *1-2 unit(s) (2 units in each of three semesters)*
- Written Culminating Exam *0 unit(s)*

#### Plan C (Creative Project- Composition or Recital)

- MUSC 224 - Supervised Graduate Study *1-2 unit(s) (6 units required) (2 units in each of two semesters)*
- MUSC 299 - Master's Thesis, Recital or Composition *1-3 unit(s) (6 units required)*
- Written Culminating Exam *0 unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Area Coordinator and the School of Music & Dance Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and an SJSU Cumulative grade point average of 3.0 in order to graduate.

## Minor

### Dance Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (20 units)

#### Core (3 units)

Complete one course from:

- ARTH 15 - Intro to Visual Culture 3 *unit(s)* (C1)
- DANC 10 - Dance Appreciation 3 *unit(s)* (C1)
- MUSC 10A - Music Appreciation 3 *unit(s)* (C1)

#### Technique Paths (9 units)

Complete nine units of any combination of Level I, II, III, IV courses in Ballet, Jazz or Modern.

#### Electives (8 units)

Complete eight units from:

- DANC 40A - Topics in Modern Dance I 2 *unit(s)* (PE)
- DANC 41A - Topics in Ballet I 2 *unit(s)* (PE)
- DANC 42A - Topics in Jazz Dance I 2 *unit(s)* (PE)
- DANC 43 - Dance Improvisation 1 *unit(s)*
- DANC 49A - Topics in Tap Dance I 1 *unit(s)*
- DANC 49B - Topics in Tap Dance II 1 *unit(s)*
- DANC 51A - Dance Production 3 *unit(s)*
- DANC 51B - Topics in Dance Crewing 0.5 *unit(s)* (*Students will enroll in DANC 51B twice*)
- DANC 53 - Techniques in World Dance 1 *unit(s)*
- DANC 75 - Rhythm and Dynamics in Dance 1 *unit(s)*
- DANC 102 - Dance in World Cultures 3 *unit(s)* (V)

- DANC 112 - ENS: Dance Rehearsal and Performance 2 *unit(s)*
- DANC 145A - Choreography I 3 *unit(s)*
- DANC 145B - Choreography II 3 *unit(s)*
- DANC 145C - Choreography III 3 *unit(s)*
- DANC 148 - Children's Dance 3 *unit(s)*
- DANC 150A - Kinesiology I 3 *unit(s)*
- DANC 150B - Kinesiology II 3 *unit(s)*
- DANC 186 - Choreographing the Musical 3 *unit(s)*
- DANC 194 - Dance Repertory Activity 1 *unit(s)*

Total Units Required (20 units)

## Music Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (18 units)

Music Fundamentals (3 units)

#### Complete One Sequence From:

Sequence One:

- MUSC 9 - Music Fundamentals 3 *unit(s)*

Sequence Two:

- MUSC 1A - Music Systems IA 2 *unit(s)*
- MUSC 1B - Music Systems IB 1 *unit(s)*

Sequence Three:

- MUSC 2A - Music Systems IIA 2 *unit(s)*
- MUSC 2B - Music Systems IIB 1 *unit(s)*

Music Recitals (2 units)

Complete 2 units from:

- MUSC 81 - Concert Listening I 1 *unit(s)*
- MUSC 181 - Concert Listening II 1 *unit(s)*

## Performance Skills (2 units)

Complete 2 units from:

- MUSC 25A - Piano Proficiency I *1 unit(s)*
- MUSC 25B - Piano Proficiency II *1 unit(s)*
- MUSC 26A - Voice Fundamentals *1 unit(s)*
- MUSC 28 - Guitar Fundamentals *1 unit(s)*
- MUSC 40A - Jazz Improvisation - I *2 unit(s)*

## Ensemble Performance (2 units)

Complete 2 units from:

- MUSC 50A - ENS: Concert Choir *1 unit(s)*
- MUSC 51 - ENS: University Chorales *1 unit(s)*
- MUSC 52 - ENS: Opera Theater *1 unit(s)*
- MUSC 53 - ENS: University Symphony Orchestra *1 unit(s)*
- MUSC 54 - ENS: Symphonic Band *1 unit(s)*
- MUSC 55 - ENS: Wind Ensemble *1 unit(s)*
- MUSC 57 - ENS: Jazz Orchestra *1 unit(s)*
- MUSC 59 - ENS: Afro-Latin Jazz Ensemble *1 unit(s)*
- MUSC 60A - ENS: Choraliers *1 unit(s)*
- MUSC 60D - ENS: Collegium Musicum *1 unit(s)*
- MUSC 60E - ENS: Jazz Singers *1 unit(s)*
- MUSC 60F - ENS: Small Jazz Ensembles *1 unit(s)*
- MUSC 60H - ENS: Percussion Ensemble *1 unit(s)*
- MUSC 60J - ENS: String Ensemble *1 unit(s)*
- MUSC 60K - ENS: Brass Ensemble *1 unit(s)*
- MUSC 60L - ENS: Woodwind Ensemble *1 unit(s)*
- MUSC 60M - ENS: Saxophone Ensemble *1 unit(s)*
- MUSC 60O - ENS: Trombone Ensemble *1 unit(s)*
- MUSC 150A - ENS: Concert Choir *1 unit(s)*
- MUSC 151 - ENS: University Chorales *1 unit(s)*
- MUSC 152 - ENS: Opera Theater *1 unit(s)*
- MUSC 153 - ENS: University Symphony Orchestra *1 unit(s)*
- MUSC 154 - ENS: Symphonic Band *1 unit(s)*
- MUSC 155 - Wind Ensemble *1 unit(s)*
- MUSC 157 - ENS: Jazz Orchestra *1 unit(s)*
- MUSC 159 - ENS: Afro-Latin Jazz Ensemble *1 unit(s)*
- MUSC 160A - ENS: Choraliers *1 unit(s)*
- MUSC 160D - ENS: Collegium Musicum *1 unit(s)*
- MUSC 160E - ENS: Jazz Singers *1 unit(s)*
- MUSC 160F - ENS: Small Jazz Ensembles *1 unit(s)*
- MUSC 160H - ENS: Percussion Ensemble *1 unit(s)*
- MUSC 160J - ENS: String Ensemble *1 unit(s)*
- MUSC 160K - ENS: Brass Ensemble *1 unit(s)*
- MUSC 160L - Woodwind Ensemble *1 unit(s)*

- MUSC 160M - ENS: Saxophone Ensemble 1 unit(s)

## Music Electives (9 units)

Complete nine units from:

- MUSC 10A - Music Appreciation 3 unit(s) (C1)
- MUSC 10B - Introduction to Music 3 unit(s) (C1)
- MUSC 12 - Medieval and Renaissance Music 3 unit(s) (C2)
- MUSC 13 - Music Technology 1 unit(s) (3 units required)
- MUSC 19 - Music in World Cultures 3 unit(s) (C1)
- MUSC 110 - Baroque and Classical Music History 3 unit(s)
- MUSC 111 - Romantic and Modern Music History 3 unit(s)
- MUSC 117 - Music and Culture in Latin America 3 unit(s) (V)
- MUSC 120 - Worlds of Jazz 3 unit(s) (S)
- MUSC 122A - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 123A - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 125D - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 127A - Fundamental Techniques and Literature: Instrumental 1 unit(s)
- MUSC 167 - Electro-Acoustic Music I 3 unit(s)
- MUSC 168 - Electro-Acoustic Music II 3 unit(s)
- MUSC 169 - Digital Synthesis 3 unit(s)
- MUSC 170A - Fundamentals of Sound Recording 3 unit(s)
- MUSC 170B - Intermediate Sound Recording 3 unit(s)
- MUSC 170C - Advanced Sound Recording Production 3 unit(s)
- MUSC 185A - Music for Children 3 unit(s)

## Total Units Required (18 units)

*DANC 10 - Dance Appreciation*

3 unit(s)

A survey of dance as art in the Western world. The course examines the diversity of people, cultures and events that led to the development of Ballet, Modern, Jazz, Tap and Musical Theatre Dance.

*Satisfies C1: Arts*

**Grading:** Graded

*DANC 12 - Ensemble Dance Rehearsal and Performance*

2 unit(s)

ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*DANC 40A - Topics in Modern Dance I*

2 unit(s)

Training experience in the field of beginning modern dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*DANC 41A - Topics in Ballet I*

2 unit(s)

Training experience in the field of beginning ballet dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*DANC 42A - Topics in Jazz Dance I*

2 unit(s)

Training experience in the field of beginning Jazz dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 4 hours.*

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*DANC 43 - Dance Improvisation*

1 unit(s)

Introduction to dance improvisation, developing skills in creativity in preparation for DANC 145A.

**Prerequisite(s):** Intermediate technique standing and permission of instructor.

**Grading:** Graded

*DANC 45A - Beginning Lindy Hop and Night Club Swing*

1 unit(s)

This course is focused on the development of fundamental Swing dance skills and knowledge. Steps, technique, and styling will be drawn from Lindy Hop, Jitterbug, Street Swing, Jive and Triple-Time Swing dances.

*Satisfies PE: Physical Education*

**Grading:** Graded

*DANC 46A - Beginning Social Dance*

*1 unit(s)*

This course is focused on the development of fundamental social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

*Satisfies PE: Physical Education*

**Grading:** Graded

*DANC 46B - Intermediate Social Dance*

*1 unit(s)*

This course is focused on the development of intermediate level social dance skills and knowledge. Dances will be selected from the American Smooth (e.g. Waltz, Tango), American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Hustle, West Coast Swing) dance categories.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 46A or KIN 48A, or equivalent dance experience.

**Grading:** Graded

*DANC 48A - Beginning Latin Dance*

*1 unit(s)*

This course is focused on the development of fundamental Latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

*Satisfies PE: Physical Education*

**Grading:** Graded

*DANC 48B - Intermediate Latin Dance*

*1 unit(s)*

This course is focused on the development of intermediate level latin dance skills and knowledge. Dances will be selected from the International Latin, American Rhythm (e.g. Rumba, Cha Cha) and night club (e.g. Salsa) dance categories.

*Satisfies PE: Physical Education*

**Prerequisite(s):** KIN 46A or KIN 48A, or equivalent dance experience.

**Grading:** Graded

*DANC 49A - Topics in Tap Dance I*

1 unit(s)

Training and experience in the field of beginning tap dance with varied topics. Can be repeated when topic changes.

*Misc/Lab: Activity 3 hours.*

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*DANC 49B - Topics in Tap Dance II*

1 unit(s)

Training and experience in the field of intermediate tap dance with varied topics. Can be repeated for up to 2 units of credit when topic changes.

*Misc/Lab: Activity 3 hours*

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** DANC 49A (or equivalent).

**Grading:** Graded

*DANC 51A - Dance Production*

3 unit(s)

Practical experience in technical aspects of producing a dance concert.

*Misc/Lab: Lecture 1 hour/activity 3 hours.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*DANC 51B - Topics in Dance Crewing*

0.5 unit(s)

The purpose of this course is to apply practical application of skills in dance production.

*Course may be repeated for credit for up to 1 units.*

**Grading:** Credit/No Credit

*DANC 53 - Techniques in World Dance*

1 unit(s)

Traditional or theatrical dance forms selected from one or at the most two specific cultures. Classical ballet, modern, jazz, and tap dance are excluded.

*Misc/Lab: Activity 3 hours.*

**Prerequisite(s):** Level II technique standing.

**Grading:** Graded



*DANC 54 - Topics in Dance Technique II*

3 unit(s)

Beginning/Intermediate Dance with varied topics.

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Audition or Instructor Consent

**Grading:** Graded

*DANC 75 - Rhythm and Dynamics in Dance*

1 unit(s)

Basic music theory and the relationship of dance and music.

*Misc/Lab: Activity 2 hours.*

**Grading:** Graded

*DANC 92 - Int'l Program Studies*

1-6 unit(s)

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mixed Grading

*DANC 102 - Dance in World Cultures*

3 unit(s)

Survey of dance in selected world cultures; the role of dance in society; consideration of style, historical background and religious/cultural influences. Included are: Caribbean, West African, Mexican, Balkan, European, Asian and American cultures. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*DANC 112 - ENS: Dance Rehearsal and Performance*

2 unit(s)

ENS: Training and performance experience in the field of dance. Fully-staged productions of original professional choreographic works of varying styles.

*Misc/Lab: Lab hours required.*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Credit/No Credit

*DANC 140B - Topics in Modern Dance IV*

*2 unit(s)*

Training experience in the field of advanced modern dance with varied topics. Can be repeated for credit when topic changes.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** DANC 140A and permission of instructor.

**Grading:** Graded

*DANC 141B - Topics in Ballet IV*

*2 unit(s)*

Training experience in the field of advanced ballet with varied topics. Can be repeated for credit when topic changes.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** DANC 141A and permission of instructor.

**Grading:** Graded

*DANC 142B - Topics in Jazz Dance IV*

*2 unit(s)*

Training experience in the field of advanced Jazz dance with varied topics. Can be repeated for credit when topic changes.

*Misc/Lab: Activity 6 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** DANC 142A and permission of instructor.

**Grading:** Graded

*DANC 144A - Dance History and Repertory*

*3 unit(s)*

History of dance and dances from ancient time to the court of King Louis XIV. Selected repertory works.

*Misc/Lab: Lecture 2 hours/activity 3 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*DANC 144B - Dance History and Repertory*

3 unit(s)

History of dance and dances from the court of King Louis XIV through the twentieth century. Selected repertory works.

*Misc/Lab: Lecture 2 hours/activity 3 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*DANC 145A - Choreography I*

3 unit(s)

Presentation and criticism of solo choreography; introduction to improvisational techniques.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** DANC 43 and Audition.

**Grading:** Graded

*DANC 145B - Choreography II*

3 unit(s)

Styles; forms; use of improvisation; presentation and criticism of small group dance.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** DANC 145A and Audition.

**Grading:** Graded

*DANC 145C - Choreography III*

3 unit(s)

Practical application of external style in relationship with art from tribal to contemporary times. Concepts, styles and forms of modern dance in the twentieth century.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** DANC 145B and Audition.

**Grading:** Graded

*DANC 147A - Dance Seminar*

3 unit(s)

Course geared toward the understanding of a broader perspective of the Art of Dance with emphasis on current trends, development of personal artistic statement and introductory teaching techniques.

**Prerequisite(s):** Senior standing and completion or concurrent enrollment in DANC 144A and/or DANC 144B.

**Grading:** Graded

*DANC 148 - Children's Dance*

3 unit(s)

Study of dance for children as personal expression through movement. Use of creative dance as a tool for the enrichment of learning. Experiencing dance in a variety of cultures.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*DANC 150A - Kinesiology I*

3 unit(s)

This course is designed to help provide the dancer with essential information about structure and function of the human body and the achievement of optimal performance through the science of human motion.

*Misc/Lab: Lecture 2 hours/lab 2 hours.*

**Grading:** Graded

*DANC 150B - Kinesiology II*

3 unit(s)

This course is designed to help provide the dancer with essential information about injury prevention and introduce active somatic techniques to increase muscular efficiency, balance and overall awareness of the body.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** DANC 150A.

**Grading:** Graded

*DANC 151 - Introduction to Dance Pedagogy*

2 unit(s)

Examines methods and modes of teaching dance as an art form, and embodied practice for producing and constructing knowledge and as movement research. Course investigates both theory and practice with concentrated focus on experiential, relational and holistic learning modes.

*Misc/Lab: 1 hour lecture/ 2 hours activity*

**Prerequisite(s):** DANC 54 and instructor approval

**Grading:** Graded

*DANC 154A - Topics in Dance Technique III*

3 unit(s)

Intermediate/advanced dance with varied topics.

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Audition or Instructor Approval

**Grading:** Graded

*DANC 154B - Topics in Dance Technique IV*

3 unit(s)

Advanced Dance with varied topics.

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Audition or Instructor Approval

**Grading:** Graded

*DANC 186 - Choreographing the Musical*

3 unit(s)

Study and practice of staging and choreographing musical comedy. Analysis of scripts and choreographic techniques.

*Misc/Lab: Lecture/activity 3 hours.*

**Prerequisite(s):** DANC 75, DANC 145A and permission of instructor.

**Grading:** Graded

*DANC 192 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*DANC 194 - Dance Repertory Activity*

1 unit(s)

Training and performance experience in the field of dance. Fully-staged productions of original student choreographic works. Can be repeated up to 12 times when repertory changes.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** DANC 51A or instructor consent.

**Grading:** Mandatory CR/NC/RP

*DANC 198 - Internship in Dance*

1-3 unit(s)

Supervised internship with approved dance organization. Written evaluation submitted by organizations and student after field work.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*MUED 140 - Foundations of Music Education*

3 unit(s)

Survey of music education's historical, philosophical, psychological and sociological foundations.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUED 142 - Introduction to Music Education: Early Field Experience*

1 unit(s)

Introduction to teaching music in the public schools. Includes in-school paraprofessional work in approved music program under supervision of university faculty and master teachers.

**Prerequisite(s):** Sophomore standing.

**Grading:** Credit/No Credit

*MUED 170A - Teaching Instrumental Music*

2 unit(s)

Materials, literature, methods and pedagogy for teachers of instrumental music.

**Grading:** Graded

*MUED 170B - Teaching Choral Music*

2 unit(s)

Materials, literature, methods and pedagogy for teachers of choral music.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MUED 175 - Practicum in Music Education*

3 unit(s)

Practical experience in music education including pedagogy, classroom management and practice teaching.

**Prerequisite(s):** MUED 140, MUED 170, MUED 147A, MUED147B or instructor consent.

**Grading:** Graded

*MUED 184I - Student Teaching for Music Individualized Interns*

2-4 unit(s)

Supervised student teaching in music class(es) in the public school where the student is employed as an Individualized Intern.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Admission to Single Subject Credential Program; music advisor and Single Subject Coordinator consent.

**Grading:** Credit/No Credit

*MUED 184Y - Student Teaching II - Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom, teaching lab or field teaching in music subjects, grades K-12. Includes seminar.

**Prerequisite(s):** Upper division standing and joint approval of major and education departments.

**Grading:** Credit/No Credit

*MUED 184Z - Student Teaching III-Classroom Teaching*

4-6 unit(s)

To be taken concurrently or in different semester than 184Y. May be in a different subject or in different school and will be at a different grade level.

**Prerequisite(s):** Upper division standing and joint approval of major and education departments.

**Grading:** Credit/No Credit

*MUED 188 - Music Ed Trends*

1-2 unit(s)

Investigation of current trends in music education. Topics vary with course offering.

**Grading:** Credit/No Credit

*MUED 192 - Int'l Program Studies*

1-6 unit(s)

Course may be repeated for credit for up to 6 units.

**Grading:** Mixed Grading

*MUED 221 - Foundations of Music Education*

3 unit(s)

This course provides an introduction to graduate studies in music education. Topics include; historical contexts; philosophy; sociology, aesthetics; psychology; and learning theory in music education.

**Prerequisite(s):** Graduate student standing and instructor consent

**Grading:** Graded

*MUED 228 - Research in Music Education*

3 unit(s)

This course examines research in music education, concentrating on qualitative, quantitative, and historical methodologies. Attention will focus on applications of research within music education, and the course will culminate in a capstone project using one of these research methodologies.

**Prerequisite(s):** Graduate student standing, instructor consent

**Grading:** Graded

*MUED 232 - Directions and Issues in Music Education*

3 unit(s)

This course examines current issues and directions in music education. Topics include historical, sociological, and philosophical contexts for music education; learning and development issues; curriculum and pedagogy; assessment; applied research in music education; and leadership development.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Graduate student standing and instructor consent

**Grading:** Graded

*MUED 370A - Methodology for Music Educators: Elementary K-8*

2 unit(s)

Study of Kodaly, Orff and Dalcroze elementary methods including a multicultural emphasis. A review of materials for the comprehensive elementary music curriculum. Peer teaching/field observations of classrooms, choral and instrumental classes required.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** Required for certification.

*MUED 370B - Methodology for Music Educators: Secondary*

2 unit(s)

Prepares secondary music instructors to teach non-performance courses, including music appreciation, theory, technology, history and multicultural survey. Peer teaching and field observations required. Organization of comprehensive secondary music departments included.

**Prerequisite(s):** MUED 370A.

**Grading:** Graded

*MUED 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semesters in a thesis, composition, or project class.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MUSC 1A - Music Systems IA*

2 unit(s)

First course in a four-semester core sequence of study of analytical systems of music. Topics include rhythm, melody, harmony, timbre, structure, style and contexts for performance and composition.

**Prerequisite(s):** Placement examination or completion of MUSC 9 with a grade of 'C' or better.

**Grading:** Graded



*MUSC 1B - Music Systems IB*

1 unit(s)

First course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis.

**Prerequisite(s):** Placement examination.

**Grading:** Graded

*MUSC 2A - Music Systems IIA*

2 unit(s)

Second course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 1A are continued in greater detail with increased complexity.

**Prerequisite(s):** MUSC 1A or placement examination.

**Grading:** Graded

*MUSC 2B - Music Systems IIB*

1 unit(s)

Second course in a four-semester core sequence of aural skills acquisition, including diction, sight-singing and analysis.

**Prerequisite(s):** MUSC 1B or placement examination.

**Grading:** Graded

*MUSC 3A - Music Systems IIIA*

2 unit(s)

Third course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 2A are continued in greater detail with increased complexity.

**Prerequisite(s):** MUSC 2A or placement examination.

**Grading:** Graded

*MUSC 3B - Music Systems IIIB*

1 unit(s)

Third course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis.

**Prerequisite(s):** MUSC 2B or placement examination.

**Grading:** Graded

*MUSC 4A - Music Systems IVA*

2 unit(s)

Fourth course in a four-semester core sequence of study of analytical systems of music. Topics from MUSC 3A are continued in greater detail and with increased complexity.

*Satisfies C1: Arts when taken as part of the Music Intensive Package.*

**Prerequisite(s):** MUSC 3A or placement examination.

**Grading:** Graded

**Note(s):** Music Intensive Package also requires MUSC 4B and MUSC 12

*MUSC 4B - Music Systems IVB*

*1 unit(s)*

Fourth course in a four-semester core sequence of aural skills acquisition, including dictation, sight-singing and analysis.

*Satisfies C1: Arts when taken as part of the Music Intensive Package.*

**Prerequisite(s):** MUSC 3B or placement examination.

**Grading:** Graded

**Note(s):** Music Intensive Package also requires MUSC 12 and MUSC 4A

*MUSC 6 - Jazz Theory*

*2 unit(s)*

Understanding of traditional jazz nomenclature including chord symbols, chord/scale relationships, and jazz harmony. Various scales, their modes and their applications will be addressed as well as their applications to harmonic progressions common to the jazz idiom.

**Prerequisite(s):** MUSC 1A, MUSC 1B, MUSC 25A.

**Grading:** Graded

*MUSC 9 - Music Fundamentals*

*3 unit(s)*

Understanding music terminology, fundamental concepts in music theory and techniques in music reading. Required of all music minors. Acceptable as elective credit for music major (as review of fundamentals or for individual instruction in conjunction with applied music study) only with prior advisor approval.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Grading:** Graded

*MUSC 10A - Music Appreciation*

*3 unit(s)*

General survey of Western music focusing on recorded and live performances.

*Satisfies C1: Arts*

**Grading:** Graded

*MUSC 10B - Introduction to Music*

3 unit(s)

Beginning piano playing as a means to understanding music. Listening skills developed through exposure to a variety of music: Popular/classical, old/new, Western/non-Western.

*Satisfies C1: Arts*

**Grading:** Graded

*MUSC 12 - Medieval and Renaissance Music*

3 unit(s)

A brief introduction to the six major periods of music history (Ancient and Medieval, Renaissance, Baroque, Classical, Romantic and Modern) followed by a survey of the Ancient, Medieval, and Renaissance periods with a study of notation, theory, composers, works, and cultural history.

*Satisfies C2: Letters when taken as part of the Music Intensive Package.*

**Prerequisite(s):** MUSC 2A or instructor consent.

**Grading:** Graded

**Note(s):** Music Intensive Package also requires MUSC 4A and MUSC 4B

*MUSC 13 - Music Technology*

1 unit(s)

Hands-on skills development in music hardware and software, including music integration in word processing and graphics, music notation and Internet/WWW-based research tools for music majors or non-music majors with some music background.

**Grading:** Graded

*MUSC 19 - Music in World Cultures*

3 unit(s)

Introduction to music in various cultural contexts outside European classical tradition. Live performances, film, video tapes and slides. Projects involving related arts encouraged.

*Satisfies C1: Arts*

**Grading:** Graded

*MUSC 25A - Piano Proficiency I*

1 unit(s)

Skills development in performing four-part harmony; harmonizing melodies in pianistic style, modulation, simple score reading and sight-reading. First in three-course sequence to prepare applied music students for piano proficiency exam at the end of MUSC 25C.

*Misc/Lab: Activity 2 hours.*

**Prerequisite(s):** MUSC 9 (or equivalent) or instructor consent.

**Grading:** Graded

*MUSC 25B - Piano Proficiency II*

1 unit(s)

25B continuation of 25A.

**Prerequisite(s):** MUSC 25A or equivalent, instructor consent

**Grading:** Graded

*MUSC 25C - Piano Proficiency III*

1 unit(s)

Preparation for Piano Proficiency Exam

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 9, MUSC 25B or equivalent, instructor consent

**Grading:** Graded

*MUSC 26A - Voice Fundamentals*

1 unit(s)

Principles of voice production and performance.

**Prerequisite(s):** MUSC 9 or MUSC 10B (or equivalent).

**Grading:** Graded

*MUSC 27A - Fundamentals of Jazz Keyboard I*

1 unit(s)

For any instrumental/voice student. Basic skills in jazz keyboard: Chord voicings, symbols, progressions and rhythmic patterns, jazz styles, simple melodic techniques and accompaniment.

**Grading:** Graded

*MUSC 27B - Fundamentals of Jazz Keyboard II*

1 unit(s)

Advanced applications of materials presented in MUSC 27A, including keyboard performance of selected lead-sheet literature; chord symbol recognition, keyboard techniques, chord substitutions introduced, polychords.

**Prerequisite(s):** MUSC 27A (or equivalent).

**Grading:** Graded

*MUSC 28 - Guitar Fundamentals*

1 unit(s)

The purpose of this course is to develop basic skills and techniques in guitar playing, applicable to various types of music and teaching.

**Prerequisite(s):** Ability to read music.

**Grading:** Graded

*MUSC 29 - Electro-Acoustics*

1-2 unit(s)

Incorporating current music technology and instrumentation in creating works and projects. Required each semester of lower division electro-acoustic majors.

**Prerequisite(s):** Audition or Instructor Consent

**Grading:** Graded

*MUSC 29A - Electro-Acoustics 1*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 1, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 29AX - Applied Electro-Acoustic 1*

1 unit(s)

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

**Prerequisite(s):** Successful audition into the applied area

**Grading:** Graded

*MUSC 29B - Electro-Acoustics 2*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 2, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 29A or equivalent

**Grading:** Graded

*MUSC 29BX - Applied Electro-Acoustic 2*

1 unit(s)

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

**Prerequisite(s):** Successful audition into the applied area

**Grading:** Graded

*MUSC 29C - Electro-Acoustics 3*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 3, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 29B or equivalent  
**Grading:** Graded

*MUSC 29CX - Applied Electro-Acoustic 3*

1 unit(s)

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

**Prerequisite(s):** Successful audition into the applied area  
**Grading:** Graded

*MUSC 29D - Electro-Acoustics 4*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 4, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 29C or equivalent  
**Grading:** Graded

*MUSC 29DX - Applied Electro-Acoustic 4*

1 unit(s)

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

**Prerequisite(s):** Successful audition into the applied area  
**Grading:** Graded

*MUSC 29X - Electro-Acoustics*

1 unit(s)

The course is an intensive study of electro-acoustic music and audio production methods. Works and projects are created incorporating current music technology and instrumentation.

**Prerequisite(s):** Successful audition into the applied area  
**Grading:** Graded

*MUSC 30 - Piano*

1-2 unit(s)

Required each semester of lower division piano majors.

**Prerequisite(s):** Audition or instructor consent.  
**Grading:** Graded

*MUSC 30A - Piano 1*

1-2 unit(s)

APPLIED LESSONS: Piano level 1. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 30AX - Applied Piano 1*

*1 unit(s)*

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

**Prerequisite(s):** Successful audition into applied area

**Grading:** Graded

*MUSC 30B - Piano 2*

*1-2 unit(s)*

APPLIED LESSONS: Piano level 2. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 30BX - Applied Piano 2*

*1 unit(s)*

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

**Prerequisite(s):** Successful audition into applied area

**Grading:** Graded

*MUSC 30C - Piano 3*

*1-2 unit(s)*

APPLIED LESSONS: Piano level 3. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 30B or equivalent.

**Grading:** Graded

*MUSC 30CX - Applied Piano 3*

*1 unit(s)*

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

**Prerequisite(s):** Successful audition into applied area

**Grading:** Graded

*MUSC 30D - Piano 4*

*1-2 unit(s)*

APPLIED LESSONS: Piano level 4. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 30C or equivalent.  
**Grading:** Graded

*MUSC 30DX - Applied Piano 3*

1 unit(s)

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

**Prerequisite(s):** Successful audition into applied area  
**Grading:** Graded

*MUSC 30X - Applied Piano*

1 unit(s)

The objective of applied lessons is for the instructor to work intensively with the individual piano major in acquiring skills both technical and interpretive in the mastery of standard repertory.

**Prerequisite(s):** Successful audition into applied area  
**Grading:** Graded

*MUSC 31 - Harpsichord or Organ*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required of BM harpsichord or organ majors every semester.

**Prerequisite(s):** Audition or instructor consent.  
**Grading:** Graded

*MUSC 31A - Harpsichord or Organ 1*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 1. Required of BM piano majors every semester.

**Prerequisite(s):** Audition or Instructor Consent  
**Grading:** Graded

*MUSC 31AX - Harpsichord or Organ 1*

1 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 31B - Harpsichord or Organ 2*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 2. Required of BM piano majors every semester.



**Prerequisite(s):** Audition and instructor consent, MUSC 31A or equivalent  
**Grading:** Graded

*MUSC 31BX - Harpsichord or Organ 2*

1 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 31C - Harpsichord or Organ 3*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 3. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 31B or equivalent  
**Grading:** Graded

*MUSC 31CX - Harpsichord or Organ 3*

1 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 31D - Harpsichord or Organ 4*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 4. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 31C or equivalent  
**Grading:** Graded

*MUSC 31DX - Harpsichord or Organ 4*

1 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 31X - Harpsichord or Organ*

1 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required each semester of lower division BA, BM-Composition or BM-Jazz Studies majors for whom harpsichord or organ is the applied area.

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 33 - Voice*

*1-2 unit(s)*

Required each semester of lower division voice majors. Study and development of vocal techniques and performance of representative repertoire from principal periods in music. Includes compositions embracing the English, Italian, French and German languages.

**Prerequisite(s):** Audition or instructor consent.  
**Grading:** Graded

*MUSC 33A - Voice 1*

*1-2 unit(s)*

APPLIED LESSONS: Voice level 1. Required of BM vocal majors every semester.

**Prerequisite(s):** Audition and instructor consent  
**Grading:** Graded

*MUSC 33AX - Applied Voice 1*

*1 unit(s)*

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence  
**Grading:** Graded

*MUSC 33B - Voice 2*

*1-2 unit(s)*

APPLIED LESSONS: Voice level 2. Required of BM vocal majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 33A or equivalent.  
**Grading:** Graded

*MUSC 33BX - Applied Voice 2*

*1 unit(s)*

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence  
**Grading:** Graded

*MUSC 33C - Voice 3*

*1-2 unit(s)*

APPLIED LESSONS: Voice level 3. Required of BM vocal majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 33B or equivalent.  
**Grading:** Graded

*MUSC 33CX - Applied Voice 3*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 33D - Voice 4*

1-2 unit(s)

APPLIED LESSONS: Voice level 4. Required of BM vocal majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 33C or equivalent.

**Grading:** Graded

*MUSC 33DX - Applied Voice 4*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 33X - Applied Voice*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division Voice majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 34 - Strings*

1-2 unit(s)

Required each semester of lower division string majors.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 34A - Strings 1*

1-2 unit(s)

APPLIED LESSONS: Strings level 1. Required of BM string majors every semester.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 34AX - Strings 1*

1 unit(s)

Applied lessons A-D, required each semester of upper and lower division string majors.

**Prerequisite(s):** Audition or instructor consent  
**Grading:** Graded

*MUSC 34B - Strings 2*

1-2 unit(s)

APPLIED LESSONS: Strings level 2. Required of BM string majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 34A or equivalent  
**Grading:** Graded

*MUSC 34BX - Strings 2*

1 unit(s)

Applied lessons A-D, required each semester of upper and lower division string majors.

**Prerequisite(s):** Audition or instructor consent  
**Grading:** Graded

*MUSC 34C - Strings 3*

1-2 unit(s)

APPLIED LESSONS: Strings level 3. Required of BM string majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 34B or equivalent  
**Grading:** Graded

*MUSC 34CX - Strings 3*

1 unit(s)

Applied lessons A-D, required each semester of upper and lower division string majors.

**Prerequisite(s):** Audition or instructor consent  
**Grading:** Graded

*MUSC 34D - Strings 4*

1-2 unit(s)

APPLIED LESSONS: Strings level 4. Required of BM string majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 34C or equivalent  
**Grading:** Graded

*MUSC 34DX - Strings 4*

1 unit(s)

Applied lessons A-D, required each semester of upper and lower division string majors.

**Prerequisite(s):** Audition or instructor consent  
**Grading:** Graded

*MUSC 34X - Strings*

1 unit(s)

Applied lessons A-D, required each semester of upper and lower division string majors.

**Prerequisite(s):** Audition or instructor consent

**Grading:** Graded

*MUSC 35 - Woodwinds*

1-2 unit(s)

Required each semester of lower division woodwind majors.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 35A - Woodwinds 1*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 1. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 35AX - Woodwinds 1*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 35B - Woodwinds 2*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 2. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

**Prerequisite(s):** Audition and instructor consent, MUSC 35A or equivalent

**Grading:** Graded

*MUSC 35BX - Woodwinds 2*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 35C - Woodwinds 3*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 3. Required of BM woodwind majors every semester. Flute, oboe, clarinet, bassoon or saxophone.

**Prerequisite(s):** Audition and instructor consent, MUSC 35B or equivalent

**Grading:** Graded

*MUSC 35CX - Woodwinds 3*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 35D - Woodwinds 4*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 4. Required of BM woodwind majors every semester. Flute, oboe, bassoon, clarinet or saxophone.

**Prerequisite(s):** Audition and instructor consent, MUSC 35C or equivalent

**Grading:** Graded

*MUSC 35DX - Woodwinds 4*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 35X - Woodwinds 1*

1 unit(s)

Applied Lessons 1-8, required each semester for lower and upper division woodwind majors.

**Prerequisite(s):** Audition and/or the prior course in the sequence

**Grading:** Graded

*MUSC 36 - Brass*

1-2 unit(s)

Required each semester of lower division brass majors.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 36B - Brass 1*

1-2 unit(s)

APPLIED LESSONS: Brass level 1. Required of BM brass majors every semester. Trumpet, trombone, french horn,

euphonium, tuba.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 36BX - Brass 1*

*1 unit(s)*

Required each semester for lower and upper division brass majors.

**Prerequisite(s):** Successful audition into the applied area.

**Grading:** Graded

*MUSC 36C - Brass 2*

*1-2 unit(s)*

APPLIED LESSONS: Brass level 2. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

**Prerequisite(s):** Audition and instructor consent, MUSC 36B or equivalent

**Grading:** Graded

*MUSC 36CX - Brass 2*

*1 unit(s)*

Required each semester for lower and upper division brass majors.

**Prerequisite(s):** Successful audition into the applied area.

**Grading:** Graded

*MUSC 36D - Brass 3*

*1-2 unit(s)*

APPLIED LESSONS: Brass level 3. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

**Prerequisite(s):** Audition and instructor consent, MUSC 36C or equivalent

**Grading:** Graded

*MUSC 36DX - Brass 3*

*1 unit(s)*

Required each semester for lower and upper division brass majors.

**Prerequisite(s):** Successful audition into the applied area.

**Grading:** Graded

*MUSC 36E - Brass 4*

*1-2 unit(s)*

APPLIED LESSONS: Brass level 4. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba.

**Prerequisite(s):** Audition and instructor consent, MUSC 36D or equivalent  
**Grading:** Graded

*MUSC 36EX - Brass 4*

1 unit(s)

Required each semester for lower and upper division brass majors.

**Prerequisite(s):** Successful audition into the applied area.  
**Grading:** Graded

*MUSC 36X - Applied Brass*

1 unit(s)

Required each semester for lower and upper division brass majors.

**Prerequisite(s):** Successful audition into the applied area.  
**Grading:** Graded

*MUSC 37 - Percussion*

1-2 unit(s)

Required each semester of lower division percussion majors.

**Prerequisite(s):** Audition or instructor consent.  
**Grading:** Graded

*MUSC 37A - Percussion 1*

1-2 unit(s)

APPLIED LESSONS: Percussion level 1. Required of BM percussion majors every semester.

**Prerequisite(s):** Audition and instructor consent  
**Grading:** Graded

*MUSC 37AX - Applied Percussion 1*

1 unit(s)

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

**Prerequisite(s):** Successful audition into the percussion studio  
**Grading:** Graded

*MUSC 37B - Percussion 2*

1-2 unit(s)

APPLIED LESSONS: Percussion level 2. Required of BM percussion majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 37A or equivalent.  
**Grading:** Graded



*MUSC 37BX - Applied Percussion 2*

1 unit(s)

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

**Prerequisite(s):** Successful audition into the percussion studio

**Grading:** Graded

*MUSC 37C - Percussion 3*

1-2 unit(s)

APPLIED LESSONS: Percussion level 3. Required of BM percussion majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 37B or equivalent.

**Grading:** Graded

*MUSC 37CX - Applied Percussion 3*

1 unit(s)

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

**Prerequisite(s):** Successful audition into the percussion studio

**Grading:** Graded

*MUSC 37D - Percussion 4*

1-2 unit(s)

APPLIED LESSONS: Percussion level 4. Required of BM percussion majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 37C or equivalent.

**Grading:** Graded

*MUSC 37DX - Applied Percussion 4*

1 unit(s)

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

**Prerequisite(s):** Successful audition into the percussion studio

**Grading:** Graded

*MUSC 37X - Applied Percussion*

1 unit(s)

Applied Lessons - Instruction in technical, stylistic, and aesthetic elements of artistic performance in percussion.

**Prerequisite(s):** Successful audition into the percussion studio

**Grading:** Graded

*MUSC 38 - Composition*

1-2 unit(s)

Required each semester of lower division composition majors. Works created incorporating traditional and twentieth

century procedures.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 38B - Composition 1*

1-2 unit(s)

APPLIED LESSONS: Composition level 1. Required of BM composition majors every semester.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 38BX - Applied Instruction in Music Composition 1*

1 unit(s)

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

**Grading:** Graded

*MUSC 38C - Composition 2*

1-2 unit(s)

APPLIED LESSONS: Composition level 2. Required of BM composition majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 1A, MUSC 1B, MUSC 38B, with a B or better

**Corequisite(s):** MUSC 2A and MUSC 2B

**Grading:** Graded

*MUSC 38CX - Applied Instruction in Music Composition 2*

1 unit(s)

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

**Grading:** Graded

*MUSC 38D - Composition 3*

1-2 unit(s)

APPLIED LESSONS: Composition level 3. Required of BM composition majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 2A and MUSC 2B, MUSC 38C, with a B or better

**Corequisite(s):** MUSC 3A and MUSC 3B

**Grading:** Graded

*MUSC 38DX - Applied Instruction in Music Composition 3*

1 unit(s)

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

**Grading:** Graded

*MUSC 38E - Composition 4*

1-2 unit(s)

APPLIED LESSONS: Composition level 4. Required of BM composition majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 3A and MUSC 3B, MUSC 38D, with a B or better

**Corequisite(s):** MUSC 4A and MUSC 4B

**Grading:** Graded

*MUSC 38EX - Applied Instruction in Music Composition 4*

1 unit(s)

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

**Grading:** Graded

*MUSC 38X - Applied Instruction in Music Composition*

1 unit(s)

The course is an intensive study of the materials of art music composition. Works are created incorporating common practice and twentieth century procedures

**Grading:** Graded

*MUSC 39A - Jazz: Improvisation, Composition or Arranging 1*

1-2 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 1. Required of BM Jazz Studies majors every semester.

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 39AX - Jazz: Improvisation, Composition or Arranging 1*

1 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 1. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 39B - Jazz: Improvisation, Composition or Arranging 2*

1-2 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 2. Required of BM Jazz Studies majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 39A or equivalent  
**Grading:** Graded

*MUSC 39BX - Jazz: Improvisation, Composition or Arranging 2*

*1 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 2. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

**Prerequisite(s):** MUSC 39AX or equivalent  
**Grading:** Graded

*MUSC 39C - Jazz: Improvisation, Composition or Arranging 3*

*1-2 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 3. Required of BM Jazz Studies majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 39B or equivalent  
**Grading:** Graded

*MUSC 39CX - Jazz: Improvisation, Composition or Arranging 3*

*1 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 3. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

**Prerequisite(s):** MUSC 39BX or equivalent  
**Grading:** Graded

*MUSC 39D - Jazz: Improvisation, Composition and Arranging 4*

*1-2 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 5. Required of BM Jazz Studies majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 39C or equivalent  
**Grading:** Graded

*MUSC 39DX - Jazz: Improvisation, Composition or Arranging 4*

*1 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 4. Required of BA, BM-Composition, or BM Jazz Studies majors every semester.

**Prerequisite(s):** MUSC 39CX or equivalent  
**Grading:** Graded

*MUSC 39X - Applied Jazz Saxophone*

*1 unit(s)*

The goal of Applied Jazz Saxophone at any level is to present each student with the appropriate materials to increase

his/her ability as an improvising musician. Emphasis will be placed on learning standard jazz repertoire; the transcription of jazz solos; the assimilation of technical patterns associated with improvisation; and internalizing an idiomatic stylistic approach.

**Prerequisite(s):** MUSC 39AxBxCxDx: Successful audition into the BA Music Degree MUSC 39ABCD: Successful audition into the BM Jazz Studies Degree MUSC 139ABCD: Successful completion of Junior Qualifying Examination MUSC 224: Successful audition into the MM Jazz Studies Degree MUSC 239: With graduate advisors and applied instructors consent

**Grading:** Graded

*MUSC 40A - Jazz Improvisation - I*

*2 unit(s)*

Development of performance skills for lead-sheet interpretation: response and interplay, ear-training for improvisers, basic chord-scales and jazz vocabulary. Vocal, instrumental, and transcription exercises. In-class performance. Emphasis will be placed on blues, modal compositions, and simple song forms.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

**Pre/Corequisite(s):** MUSC 1A, MUSC 1B and MUSC 25A; or equivalent.

**Grading:** Graded

*MUSC 41A - Applied Lyric Diction*

*1 unit(s)*

Pronunciation and applied execution of correct diction in English and Italian for singers in a master class setting. Performance of specific literature of these languages with emphasis on correct usage of the International Phonetic alphabet for lyric diction.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MUSC 41B - Applied Lyric Diction*

*1 unit(s)*

Pronunciation and applied execution of correct diction in French and German for singers in a master class setting. Performance of specific literature of these languages with emphasis on correct usage of the International Phonetic Alphabet for lyric diction.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MUSC 50A - ENS: Concert Choir*

*1 unit(s)*

Ensemble. Large select choral ensemble, specializing in advanced a cappella and symphonic major works from all periods.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 51 - ENS: University Chorales*

1 unit(s)

ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition or Instructor Consent

**Grading:** Graded

*MUSC 52 - ENS: Opera Theater*

1 unit(s)

Ens: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent.

**Grading:** Graded

*MUSC 53 - ENS: University Symphony Orchestra*

1 unit(s)

ENS: Rehearsal and performance of standard orchestral and operatic repertory.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 54 - ENS: Symphonic Band*

1 unit(s)

ENS: Rehearsal and performance of large symphonic band repertory.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 55 - ENS: Wind Ensemble*

1 unit(s)

ENS: Major performing group open to all wind instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Programming changes every semester. Performances can include but not be limited to state and national conferences.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 56 - ENS: Spartan Marching Band*

*2 unit(s)*

ENS: Open by permission to all students who play saxophone, brass or percussion instruments. Performs at all home and selected away Spartan football games.

*Course may be repeated for credit for up to 10 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 57 - ENS: Jazz Orchestra*

*1 unit(s)*

ENS: Big band jazz performance for instrumentalists and singers. Classic and new repertoire. Concert performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 59 - ENS: Afro-Latin Jazz Ensemble*

*1 unit(s)*

ENS: Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Ensemble techniques and solo improvisation. Concert performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60A - ENS: Choraliers*

*1 unit(s)*

ENS: Small select chamber vocal group specializing in music from all periods, Renaissance to Contemporary.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60B - ENS: Chamber Orchestra*

*1 unit(s)*

ENS: Study and performance of advanced literature for small orchestra, with music selected from a broad range of stylistic periods and composers

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition or Instructor Consent  
**Grading:** Graded

*MUSC 60C - ENS: Chamber Music*

*1 unit(s)*

ENS: In-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent  
**Grading:** Graded

*MUSC 60D - ENS: Collegium Musicum*

*1 unit(s)*

ENS: Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent  
**Grading:** Graded

*MUSC 60E - ENS: Jazz Singers*

*1 unit(s)*

ENS: Performance of advanced literature for chamber jazz chorus in concerts, festivals, and special events. Performance techniques, improvisation, musicianship and studio-recording techniques.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent  
**Grading:** Graded

*MUSC 60F - ENS: Small Jazz Ensembles*

*1 unit(s)*

ENS: Small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 1A, MUSC 1B, MUSC 40A and MUSC 140B or equivalent. Instructor consent.  
**Grading:** Graded

*MUSC 60G - ENS: Pep Band*

*1 unit(s)*

ENS: Limited to twenty-five woodwind, brass and percussion players; performs at home Spartan basketball games



and certain campus functions.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60H - ENS: Percussion Ensemble*

*1 unit(s)*

ENS: Performing class consisting of percussion majors. Master classes during fall semester.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Non-majors by audition and instructor consent

**Grading:** Graded

*MUSC 60I - ENS: Jazz Ensemble*

*1 unit(s)*

ENS: Large jazz ensemble focused on learning standard repertoire, style, pedagogy and improvisation.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 60J - ENS: String Ensemble*

*1 unit(s)*

ENS: Chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60K - ENS: Brass Ensemble*

*1 unit(s)*

ENS: Performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60L - ENS: Woodwind Ensemble*

1 unit(s)

ENS: Chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition or Instructor Consent

**Grading:** Graded

*MUSC 60M - ENS: Saxophone Ensemble*

1 unit(s)

ENS: Overview of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 60O - ENS: Trombone Ensemble*

1 unit(s)

ENS: Rehearsal and performance of literature for trombone ensemble. Weekly meetings will also include discussion of brass related topics.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 61 - REP: Styles and Interpretation of Opera I*

1 unit(s)

REP: Introduction to styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 62 - ENS: Opera Production*

1 unit(s)

ENS: Hands-on training and experience in all phases of opera production.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 63 - REP: Styles and Interpretation of Opera II*

1 unit(s)

REP: Advanced styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and Instructor Consent

**Grading:** Graded

*MUSC 65 - Concert Band*

1 unit(s)

Concert Band is an ensemble open to all wind and percussion instrumentalists regardless of major. It is designed for instrumentalists that are still developing rehearsal and performance skills in an ensemble setting that culminates in a concert on campus each semester.

*Activity 2 hours.*

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Open to freshmen and sophomores only.

**Grading:** Graded

*MUSC 81 - Concert Listening I*

1 unit(s)

Active involvement in the professional musical life of the campus and community through attending programs from the master list published each semester and writing five critical reviews.

*Course may be repeated for credit for up to 4 units.*

**Grading:** Credit/No Credit

**Note(s):** Open to all university students.

*MUSC 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*MUSC 100W - Written Communication II*

3 unit(s)

Examines the process of critique, creative description, research, and professional communications central to the performing arts. Students develop writing skills through the study of varied formats focused on the arts. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper

division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*MUSC 102 - Orchestration*

3 unit(s)

Ranges, sonorities, transposition and technical considerations of orchestral instruments. Performance of project for full orchestra as culminating activity.

**Prerequisite(s):** MUSC 13, MUSC 4A and MUSC 4B or equivalents

**Grading:** Graded

**Note(s):** May be taken singly or in any sequence.

*MUSC 103 - Form and Analysis*

3 unit(s)

Formal design and pitch structure of Western art music.

**Prerequisite(s):** MUSC 4A and MUSC 4B.

**Grading:** Graded

*MUSC 104 - Counterpoint*

3 unit(s)

The study of the art of counterpoint from the sixteenth century to the present. Includes analysis, imitative and original composition.

**Prerequisite(s):** MUSC 4A and MUSC 4B (both with C or better); placement examination.

**Grading:** Graded

**Note(s):** May be taken singly or in any sequence. Emphasis may vary.

*MUSC 106A - Jazz Arranging I*

2 unit(s)

First in a two-semester sequence of jazz arranging and composition required of all jazz majors. Deals primarily with techniques involved in writing and arranging music for the small jazz ensemble and addresses skills used jazz composition.

**Prerequisite(s):** MUSC 2A, MUSC 2B, MUSC 6, MUSC 40A.

**Grading:** Graded

*MUSC 106B - Jazz Arranging II*

2 unit(s)

Second in a two-semester sequence of jazz arranging and composition required of all jazz majors. Deals primarily with techniques involved in writing and arranging music for the large jazz ensemble. Computer notation is required on all finished projects.

**Prerequisite(s):** MUSC 2A, MUSC 2B, MUSC 6, MUSC 106A.

**Grading:** Graded

*MUSC 109 - Film Scoring Techniques*

3 unit(s)

Production-oriented introduction to techniques of applied composition and sound for film, television, video and related visual media. Concepts of style and orchestration.

**Prerequisite(s):** MUSC 102 or equivalent.

**Grading:** Graded

**Note(s):** Emphasis may vary.

*MUSC 110 - Baroque and Classical Music History*

3 unit(s)

Exploration and survey of the Baroque and Classical periods with study of styles, composers, works, music theory, performance practices, and cultural and intellectual history. Application of research and library skills through research assignments.

**Prerequisite(s):** MUSC 12, MUSC 3A (or equivalent), or instructor consent.

**Grading:** Graded

*MUSC 111 - Romantic and Modern Music History*

3 unit(s)

Exploration and survey of Romantic and Modern classical music with study of styles, composers, works, music theory, performance practices, and cultural and intellectual history. Demonstration of research and library skills through a term paper.

**Prerequisite(s):** MUSC 110, or equivalent.

**Grading:** Graded

*MUSC 116 - Aspects of Twentieth Century Music*

3 unit(s)

In-depth study of contemporary music from the various major musical cultures of the world including the European-American classical tradition. Content will vary depending upon national and international trends, compositional techniques and performance media. Formal analysis, listening and performance.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** MUSC 111 (or equivalent).

**Grading:** Graded

**Note(s):** Emphasis may vary. Offered only occasionally.

*MUSC 117 - Music and Culture in Latin America*

3 unit(s)

Traces development of musical traditions in Latin America. Analyzes formation of musical styles resulting from socio-

political, cultural and economic processes. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MUSC 118 - Global Soundtracks*

*3 unit(s)*

The course focuses on the analysis of the aural semiotics of narrative music to reflect and critique the subjectivities, themes, and cultures of their respective films, and historically traces their trans-global evolution and interchange of approaches over the past century.

**Prerequisite(s):** Completion of core GE, upper division standing, passage of WST

**Pre/Corequisite(s):** Any 100w

**Grading:** Graded

*MUSC 120 - Worlds of Jazz*

*3 unit(s)*

Course approaches jazz as part of American and global cultural history, exploring the changing social contexts in which jazz musicians in the US and abroad have worked and lived throughout the 20th century and today. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MUSC 122A - Fundamental Techniques and Literature: Instrumental*

*1 unit(s)*

Woodwinds: Flute, Clarinet, and Saxophone. Required for credential. Instrumental emphasis in music education must take two units including clarinet, saxophone, flute, oboe, and bassoon. Choral/general emphasis must take a minimum of one unit to include flute, clarinet and saxophone.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MUSC 122B - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Woodwinds: double reeds and saxophone. Required for credential. Instrumental emphasis in music education must take two units including flute, clarinet, saxophone and double reeds. Choral/general emphasis must take a minimum of one unit including flute, clarinet, and saxophone.

**Prerequisite(s):** Upper Division Standing, and Instructor Consent

**Grading:** Graded

*MUSC 123A - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Upper Brass. Required for credential. Instrumental emphasis in music education must take two units including upper and lower brass. Choral/general emphasis must take a minimum of one unit of brass.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MUSC 123B - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Lower Brass. Required for credential. Instrumental emphasis in music education must take two units including upper and lower brass. Choral/general emphasis must take a minimum of one unit of upper brass.

**Prerequisite(s):** Upper Division Standing and Instructor Consent

**Grading:** Graded

*MUSC 124 - Special Topics in Music History/Literature*

1-3 unit(s)

Content varies to allow presentation of one-time courses by specialists from artist-faculty and guests.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUSC 125D - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Percussion. Required for credential.

*Misc/Lab: Activity 2 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MUSC 126 - Marching Band Techniques*

1 unit(s)

Methods and materials of marching band instruction. Techniques of show development, arranging, drill design,

charting, and drill instruction. Principles of band administration, such as budget management, purchasing, and program development. Required for credential.

**Prerequisite(s):** Upper division standing and instructor consent.

**Grading:** Graded

**Note(s):** Offer through Extended Studies.

*MUSC 127A - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Upper Strings. Required for credential. Instrumental emphasis in music education must take two units including upper and lower strings. Choral/general emphasis must take a minimum of one unit of strings.

*Misc/Lab: Activity 4 hours.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*MUSC 127B - Fundamental Techniques and Literature: Instrumental*

1 unit(s)

Lower Strings. Required for credential. Instrumental emphasis in music education must take two units including upper and lower strings. Choral/general emphasis must take a minimum of one unit of upper strings.

**Prerequisite(s):** Upper Division Standing and Instructor Consent

**Grading:** Graded

*MUSC 129 - Electro-Acoustics*

1-2 unit(s)

Incorporating current music technology and instrumentation in creating advanced works and projects. Required each semester of upper division electro-acoustic majors.

**Prerequisite(s):** Audition or instructor consent

**Grading:** Graded

*MUSC 129A - Electro-Acoustics 5*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 5, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 29D or equivalent

**Grading:** Graded

*MUSC 129B - Electro-Acoustics 6*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 6, incorporating current music technology and instrumentation into projects. For music technology majors.



**Prerequisite(s):** Audition and instructor consent, MUSC 129A or equivalent  
**Grading:** Graded

*MUSC 129C - Electro-Acoustics 7*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 7, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 129B or equivalent  
**Grading:** Graded

*MUSC 129D - Electro-Acoustics 8*

1-2 unit(s)

APPLIED LESSONS: Electro-acoustics level 8, incorporating current music technology and instrumentation into projects. For music technology majors.

**Prerequisite(s):** Audition and instructor consent, MUSC 129C or equivalent  
**Grading:** Graded

*MUSC 130 - Piano*

1-2 unit(s)

Required each semester of upper division piano majors. Continuation of MUSC 30. Study and performance of selections comparable to Bach Preludes and Fugues from Well-Tempered Clavier; Beethoven Sonata, Op. 31 No. 3; Chopin Ballade in A-flat and Debussy Preludes.

**Prerequisite(s):** Audition or instructor consent.  
**Grading:** Graded

*MUSC 130A - Piano 5*

1-2 unit(s)

APPLIED LESSONS: Piano level 5. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 30D or equivalent.  
**Grading:** Graded

*MUSC 130B - Piano 6*

1-2 unit(s)

APPLIED LESSONS: Piano level 6. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 130A or equivalent.  
**Grading:** Graded

*MUSC 130C - Piano 7*

1-2 unit(s)

APPLIED LESSONS: Piano level 7. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 130B or equivalent.  
**Grading:** Graded

*MUSC 130D - Piano 8*

1-2 unit(s)

APPLIED LESSONS: Piano level 8. Lessons required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 130C or equivalent.  
**Grading:** Graded

*MUSC 131 - Keyboard*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ. Required of BM piano majors every semester. Upper division.

**Prerequisite(s):** Audition or instructor consent, MUSC 31D or equivalent.  
**Grading:** Graded

*MUSC 131A - Harpsichord or Organ 5*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 5. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 31D or equivalent  
**Grading:** Graded

*MUSC 131B - Harpsichord or Organ 6*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 6. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 131A or equivalent  
**Grading:** Graded

*MUSC 131C - Harpsichord or Organ 7*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 7. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 131B or equivalent  
**Grading:** Graded

*MUSC 131D - Harpsichord or Organ 8*

1-2 unit(s)

APPLIED LESSONS: Harpsichord or organ level 8. Required of BM piano majors every semester.

**Prerequisite(s):** Audition and instructor consent, MUSC 131C or equivalent  
**Grading:** Graded

*MUSC 133 - Voice*

1-2 unit(s)

Required each semester of upper division voice majors. Continuation of MUSC 33. Study of more advanced repertoire and techniques.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 133A - Voice 5*

1-2 unit(s)

APPLIED LESSONS: Voice level 5. Required of BM vocal majors every semester. Upper division.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor consent, MUSC 33D or equivalent

**Grading:** Graded

*MUSC 133B - Voice 6*

1-2 unit(s)

APPLIED LESSONS: Voice level 6. Required of BM vocal majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 133A or equivalent, MUSC 25C or equivalent

**Grading:** Graded

*MUSC 133C - Voice 7*

1-2 unit(s)

APPLIED LESSONS: Voice level 7. Required of BM vocal majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 133B or equivalent.

**Grading:** Graded

*MUSC 133D - Voice 8*

1-2 unit(s)

APPLIED LESSONS: Voice level 8. Required of BM vocal majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 133C or equivalent

**Grading:** Graded

*MUSC 134 - Strings*

1-2 unit(s)

Required each semester of upper division string majors. Violin: All major and minor scales and arpeggios in three octaves; double stops; Kreutzer, Fiorillo, Rode etudes; Bach unaccompanied sonatas and standard concert repertoire, including concerti and sonatas by Vivaldi, Bach, Mozart, Mendelssohn, Beethoven and Brahms. Viola: All major and minor scales in three octaves; double stops; standard etudes including Kreutzer, Mazas, Bruni; Bach suites; all standard repertoire including Block suites, Brahms, Hindemith and Schubert. Cello: All major and minor scales and arpeggios in three octaves; double stops; standard etudes including Duport, Popper, Piatti. Solo literature will include selections by Bach, Beethoven, Boccherini, Brahms, Dvorak, Faure, Haydn, Saint-Saens, Shostakovich and Vivaldi. String Bass: All major and minor scales and arpeggios; Simandl Reinshagen, Bille, Storch, Hrabe etudes.

Includes solo literature of Bottesini, Dittersdorf, Dragonetti, Koussevitzky, Hindemith, Marcello, Vivaldi and standard orchestral literature. Harp: Literature and techniques, with solo and ensemble performances. Etudes by Salzedo, Lariviere and standard concert works comparable to Ravel Introduction and Allegro, Salzedo Preludes, Prescetti Sonata and Pierne Impromptu CapriGuitar: Literature and technique of the guitar including studies by Shearer, Casassi, Guilliani, Torrega and Segovia, and solos by J. S. Bach, Carulli, De Visee, Fernando Sor and Paganini.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 134A - Strings 5*

1-2 unit(s)

APPLIED LESSONS: Strings level 5. Required of BM string majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 34D or equivalent

**Grading:** Graded

*MUSC 134B - Strings 6*

1-2 unit(s)

APPLIED LESSONS: Strings level 6. Required of BM string majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 134A or equivalent, MUSC 25C or equivalent

**Grading:** Graded

*MUSC 134C - Strings 7*

1-2 unit(s)

APPLIED LESSONS: Strings level 7. Required of BM string majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 135B or equivalent

**Grading:** Graded

*MUSC 134D - Strings 8*

1-2 unit(s)

APPLIED LESSONS: Strings level 8. Required of BM string majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 134C or equivalent

**Grading:** Graded

*MUSC 135 - Woodwinds*

1-2 unit(s)

Required each semester of upper division woodwind majors. Clarinet: Selections comparable to Mozart Clarinet Concerto, Brahms Sonatas and Weber Concertino. Saxophone: Comprehensive pedagogical approach to study of modern Saxophone technique from classical to jazz to avant-garde. Repertory comparable to Dahl Concerto, Woods Sonata, Wirth Indonesian Landscapes, Snyder Variations. Oboe: Selections comparable to Handel Concerto in G Minor. Haydn Oboe Concerto, Hindemith Oboe Sonata, Barret Oboe Studies. Double-reed construction is required. Flute: Selections comparable to Bach Sonata IV, Debussy Syrinx, Mozart concerti and Varese Density. Bassoon: Sonatas comparable to those of Etler, Saint-Saens and Mozart Sonata for Cello and Bassoon; concerti comparable to those of Weber, J. C. Bach, Mozart and Jacob, and representative excerpts from orchestral and chamber repertoire.

Double-reed construction is required.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 135A - Woodwinds 5*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 5. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 35D or equivalent

**Grading:** Graded

*MUSC 135B - Woodwinds 6*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 6. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 25C or equivalent, MUSC 135A or equivalent

**Grading:** Graded

*MUSC 135C - Woodwinds 7*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 7. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 135B or equivalent

**Grading:** Graded

*MUSC 135D - Woodwinds 8*

1-2 unit(s)

APPLIED LESSONS: Woodwinds level 8. Required of BM woodwind majors every semester. Flute, oboe, saxophone, clarinet or bassoon. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 135C or equivalent

**Grading:** Graded

*MUSC 136 - Brass*

1-2 unit(s)

Required each semester of upper division brass majors. Trumpet: Selections comparable to Haydn Concerto, Hummel Concerto, Arutunian Concerto, Neruda Concerto and Hindemith Sonata. Trombone: Selections comparable to Concerto in B flat by Albrechtsberger or 15 Rhythmical Etudes by Bitsch. French Horn: Selections comparable to Concerto in E flat by Strauss, Concerti Nos. 2 and 4 by Mozart and Hindemith Sonata. Baritone Horn: Selections comparable to literature listed for trombone. Tuba: Selections comparable to Sonata Capriccioso by Takzcs, Concerto by Vaughn Williams and Suite No. 2 by Wilder.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 136A - Vocal-Instrumental Improvisation*

1 unit(s)

Advanced vocal and instrumental private lessons. Development of performing skills in various styles, with emphasis on soloing, reading lead sheets and advanced levels of musicianship and musicality.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MUSC 136B - Brass 5*

1-2 unit(s)

APPLIED LESSONS: Brass level 5. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 36D or equivalent

**Grading:** Graded

*MUSC 136C - Brass 6*

1-2 unit(s)

APPLIED LESSONS: Brass level 6. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 25C or equivalent, MUSC 136B or equivalent

**Grading:** Graded

*MUSC 136D - Brass 7*

1-2 unit(s)

APPLIED LESSONS: Brass level 7. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 136C or equivalent.

**Grading:** Graded

*MUSC 136E - Brass 8*

1-2 unit(s)

APPLIED LESSONS: Brass level 8. Required of BM brass majors every semester. Trumpet, trombone, french horn, euphonium, tuba. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 136D or equivalent.

**Grading:** Graded

*MUSC 137 - Percussion*

1-2 unit(s)

Required each semester of upper division percussion majors. Performance on timpani, keyboard percussion and

snare drum as well as the accessory percussion instruments. Timpani etudes: Goodman, Firth, Cirone and the classical timpani repertoire. Keyboard repertoire includes Orchestral Mallet Player by Cirone. Goldenberg etudes, standard orchestral literature plus 4-mallet literature. Snare drum methods of Podemski, Whaley and Cirone and the standard orchestral literature.

**Prerequisite(s):** Audition or instructor consent.

**Grading:** Graded

*MUSC 137A - Percussion 5*

1-2 unit(s)

APPLIED LESSONS: Percussion level 5. Required of BM percussion majors every semester. Upper division.

*Course is repeatable for up to 2 units.*

**Prerequisite(s):** Audition and instructor consent, MUSC 37D or equivalent.

**Grading:** Graded

*MUSC 137B - Percussion 6*

1-2 unit(s)

APPLIED LESSONS: Percussion level 6. Required of BM percussion majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 137A or equivalent, MUSC 25C or equivalent

**Grading:** Graded

*MUSC 137C - Percussion 7*

1-2 unit(s)

APPLIED LESSONS: Percussion level 7. Required of BM percussion majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 137B or equivalent.

**Grading:** Graded

*MUSC 137D - Percussion 8*

1-2 unit(s)

APPLIED LESSONS: Percussion level 8. Required of BM percussion majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 137C or equivalent

**Grading:** Graded

*MUSC 138A - Composition*

1 unit(s)

Private studio lessons. Advanced applications of the process needed to bring personal musical ideas and concepts to realities, such as compositions or arrangements in concert performance and video productions.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MUSC 138B - Composition 5*

1-2 unit(s)

APPLIED LESSONS: Composition level 5. Required of BM composition majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 4A and MUSC 4B, MUSC 38E

**Grading:** Graded

*MUSC 138C - Composition 6*

1-2 unit(s)

APPLIED LESSONS: Composition level 6. Required of BM composition majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 25C or equivalent, MUSC 138B

**Grading:** Graded

*MUSC 138D - Composition 7*

1-2 unit(s)

APPLIED LESSONS: Composition level 7. Required of BM composition majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 102, MUSC 103, MUSC 104 and MUSC 138C

**Grading:** Graded

*MUSC 138E - Composition 8*

1-2 unit(s)

APPLIED LESSONS: Composition level 8. Required of BM composition majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 138D

**Grading:** Graded

*MUSC 139A - Jazz Studies 5*

1-2 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 5. Required of BM Jazz Studies majors every semester. Upper Division.

**Prerequisite(s):** Audition and instructor consent, MUSC 39D or equivalent

**Grading:** Graded

*MUSC 139B - Jazz Studies 6*

1-2 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 6. Required of BM Jazz Studies majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 139A or equivalent, MUSC 25C or equivalent, MUSC 27A

**Grading:** Graded

*MUSC 139C - Jazz Studies 7*

1-2 unit(s)

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 7. Required of BM



Jazz Studies majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 139B or equivalent

**Grading:** Graded

*MUSC 139D - Jazz Studies 8*

*1-2 unit(s)*

APPLIED LESSONS: Jazz. Vocal or instrumental improvisation, composition or arranging, level 8. Required of BM Jazz Studies majors every semester. Upper division.

**Prerequisite(s):** Audition and instructor consent, MUSC 139C or equivalent

**Grading:** Graded

*MUSC 140B - Jazz Improvisation-II*

*2 unit(s)*

Continuation of MUSC 40A in greater depth and complexity: developing coherent solos and musical conversations, building bebop vocabulary, working with alternate melodic and rhythmic resources. Vocal, instrumental, and transcription exercises. In-class performance. Emphasis will be placed on bebop compositions, complex song forms, and rhythm changes.

*Seminar 1 hour/activity 2 hours.*

*Course is repeatable for up to 6 units.*

**Pre/Corequisite(s):** MUSC 2A, MUSC 2B, and MUSC 40A; or equivalent.

**Grading:** Graded

*MUSC 140C - Jazz Improvisation-III*

*2 unit(s)*

Continuation of MUSC 140B in greater depth and complexity: advanced transcription projects, style analysis, developing personal improvisatory style, advanced rhythmic, melodic, and harmonic techniques. Emphasis will be placed on complex jazz compositions-primarily those of Wayne Shorter, Chick Corea, and Tom Harrell.

*Seminar 1 hour/activity 2 hours.*

*Course is repeatable for up to 6 units.*

**Pre/Corequisite(s):** MUSC 40A or equivalent.

**Grading:** Graded

*MUSC 142 - REP: Art Song Repertoire*

*1 unit(s)*

Content varies each semester, with focus on German, French, Italian and Spanish, English and American, or Russian, Polish, Slavic and Scandinavian literature. Performance practice, language, style and history.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Upper division standing or instructor consent. Seminar 1 hour/activity 2 hours.

**Grading:** Graded

*MUSC 143 - REP: Collaborative Keyboard Performance*

1 unit(s)

For piano majors who wish to broaden their pianistic skills by performing with singers and instrumentalists both in studio sessions and recital situations. A maximum of four units may be repeated.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUSC 144 - REP: Solo Lit., Performance, Pedagogy*

1 unit(s)

Performance of vocal or piano literature studied in studio lessons, with discussion of technique, pedagogy, recital preparation and interpretive, stylistic and linguistic aspects of literature in a master class setting to develop confidence and serve as a forum for exchange of ideas.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MUSC 145 - REP: Performance Concepts*

2 unit(s)

Content varies to allow presentation of one-time courses by specialists from artist-faculty and guests. Repeatable for up to 4 units of credit when topic changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUSC 146 - Introduction to Applied Music Pedagogy*

2 unit(s)

An introduction to the fundamentals of teaching applied music for the performing musician.

**Prerequisite(s):** MUSC 30D, MUSC 31D, MUSC 34D, MUSC 35D, MUSC 36E or MUSC 37D

**Grading:** Graded

*MUSC 146A - Pedagogy - Piano*

2 unit(s)

For piano majors and established teachers who primarily wish to teach. Teaching techniques and application of these skills from elementary to most advanced levels.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUSC 146B - Pedagogy - Percussion*

1 unit(s)

Two projects chosen from the following areas: conducting, composition, clinics, orchestral repertoire, lesson plans, article, book or research projects.

**Prerequisite(s):** Upper division percussion majors only.

**Grading:** Graded

*MUSC 147A - Beginning Conducting*

2 unit(s)

Basic choral and instrumental conducting techniques.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*MUSC 147B - Advanced Conducting: Instrumental*

2 unit(s)

Advanced instrumental conducting techniques. Rehearsal and performance of instrumental groups under supervision.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

**Prerequisite(s):** MUSC 147A or instructor consent.

**Grading:** Graded

*MUSC 147C - Advanced Conducting: Choral*

2 unit(s)

Advanced choral conducting techniques. Rehearsal and performance of choral groups under supervision.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** MUSC 147A or equivalent

**Grading:** Graded

*MUSC 148A - Improvisational Traditions of the World - Africa and Diaspora*

2 unit(s)

Selected topics in performance practice and social context of improvisational musics from African and African-Diaspora cultures: selected genres from Sub-Saharan Africa and their relations to Diasporic traditions in the Americas, the Caribbean, and elsewhere. In-class and/or public performances.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

*Course may be repeated for credit for up to 4 units.*

**Pre/Corequisite(s):** MUSC 2A and MUSC 2B or equivalent.

**Grading:** Graded

*MUSC 148B - Improvisational Traditions of the World - Asia*

2 unit(s)

Selected topics in performance and social context of improvisational musics of Asia: gamelan and/or other selected genres. In-class and/or public performances.

*Misc/Lab: Seminar 1 hour/activity 2 hours.*

**Pre/Corequisite(s):** MUSC 2A and MUSC 2B or equivalent.

**Grading:** Graded

*MUSC 150A - ENS: Concert Choir*

1 unit(s)

Ensemble. Large select choral ensemble, specializing in advanced a cappella and symphonic major works from all periods.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 50A or equivalent, audition and instructor consent

**Grading:** Graded

*MUSC 151 - ENS: University Chorales*

1 unit(s)

ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 51 or equivalent, audition and instructor consent

**Grading:** Graded

*MUSC 152 - ENS: Opera Theater*

1 unit(s)

ENS: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 52 or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 153 - ENS: University Symphony Orchestra*

1 unit(s)

ENS: Rehearsal and performance of standard orchestral and operatic repertory.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 53 or equivalent. Audition and instructor consent.  
**Grading:** Graded

*MUSC 154 - ENS: Symphonic Band*

*1 unit(s)*

ENS: Rehearsal and performance of large symphonic band repertory.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 54 or equivalent. Audition and instructor consent.  
**Grading:** Graded

*MUSC 155 - Wind Ensemble*

*1 unit(s)*

Major performing group open to all wind instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Programming changes every semester. Performances can include but not be limited to state and national conferences.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 55 or equivalent. Instructor's Consent  
**Grading:** Graded

*MUSC 156 - ENS: Spartan Marching Band*

*2 unit(s)*

ENS: Open by permission to all students who play saxophone, brass or percussion instruments. Performs at all home and selected away Spartan football games.

*Course may be repeated for credit for up to 10 units.*

**Prerequisite(s):** MUSC 56 or equivalent. Audition and instructor consent.  
**Grading:** Graded

*MUSC 157 - ENS: Jazz Orchestra*

*1 unit(s)*

ENS: Big band jazz performance for instrumentalists and singers. Classic and new repertoire. Concert performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 57 or equivalent. Audition and instructor consent.  
**Grading:** Graded

*MUSC 159 - ENS: Afro-Latin Jazz Ensemble*

*1 unit(s)*

ENS: Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Ensemble techniques and solo improvisation. Concert performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 59 or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 160A - ENS: Choraliers*

*1 unit(s)*

ENS: Small select chamber vocal group specializing in music from all periods, Renaissance to Contemporary.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60A or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 160B - ENS: Chamber Orchestra*

*1 unit(s)*

Study and performance of advanced literature for small orchestra, with music selected from a broad range of stylistic periods and composers.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 60B or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160C - ENS: Chamber Music*

*1 unit(s)*

ENS: In-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 160D - ENS: Collegium Musicum*

*1 unit(s)*

ENS: Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 60D or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160E - ENS: Jazz Singers*

*1 unit(s)*

Performance of advanced literature for chamber jazz chorus in concerts, festivals, and special events. Performance

techniques, improvisation, musicianship and studio-recording techniques.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 60E or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160F - ENS: Small Jazz Ensembles*

*1 unit(s)*

Small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 1A, MUSC 1B and MUSC 40A, MUSC 40B: or equivalents.

**Grading:** Graded

*MUSC 160G - ENS: Pep Band*

*1 unit(s)*

Limited to twenty-five woodwind, brass and percussion players; performs at home Spartan basketball games and certain campus functions.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60G or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160H - ENS: Percussion Ensemble*

*1 unit(s)*

Performing class consisting of percussion majors. Master classes during fall semester.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60H or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160I - ENS: Jazz Ensemble*

*1 unit(s)*

ENS: Large jazz ensemble focused on learning standard repertoire, style, pedagogy and improvisation.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Audition and instructor consent

**Grading:** Graded

*MUSC 160J - ENS: String Ensemble*

1 unit(s)

Chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60J or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160K - ENS: Brass Ensemble*

1 unit(s)

Performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60K or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160L - Woodwind Ensemble*

1 unit(s)

Chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60L or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160M - ENS: Saxophone Ensemble*

1 unit(s)

Overview of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.

*Course is repeatable for up to 5 units.*

**Prerequisite(s):** MUSC 60M or equivalent. Instructor consent.

**Grading:** Graded

*MUSC 160O - Trombone Ensemble*

1 unit(s)

Rehearsal and performance of literature for trombone ensemble. Weekly meetings will also include discussion of brass related topics.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 60O or equivalent. Instructor consent

**Grading:** Graded



*MUSC 161 - REP: Styles and Interpretation of Opera I*

1 unit(s)

REP: Introduction to styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** 61 or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 162 - ENS: Opera Production*

1 unit(s)

ENS: Hands-on training and experience in all phases of opera production.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 62 or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 163 - REP: Styles and Interpretation of Opera II*

1 unit(s)

REP: Advanced styles of opera composition and presentation focusing on opera scenes being presented by the Opera Theater.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** MUSC 61 or equivalent. Audition and instructor consent.

**Grading:** Graded

*MUSC 165 - Concert Band*

1 unit(s)

Concert Band is an ensemble open to all wind and percussion instrumentalists regardless of major. It is designed for instrumentalists that are still developing rehearsal and performance skills in an ensemble setting that culminates in a concert on campus each semester.

*Activity 2 hours.*

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Open to juniors, seniors and graduate students only.

**Grading:** Graded

*MUSC 166 - Physics of Music*

3 unit(s)

Physical, mathematical and perceptual foundations of music. Includes musical instruments, hearing, harmony, room acoustics, sound analysis, synthesis and reproduction.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MUSC 167 - Electro-Acoustic Music I*

*3 unit(s)*

Overview of electro-acoustic studio production/research techniques and hands-on study of analog, digital and hybrid synthesis techniques related to composition and performance. Introduction to signal processing, MIDI and basic software/hardware systems applications.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** MUSC 4A and MUSC 4B or instructor consent.

**Grading:** Graded

*MUSC 168 - Electro-Acoustic Music II*

*3 unit(s)*

Continuation of MUSC 167, covering advanced synthesis, programming and production. Development of strategies for sound design and music composition toward applications in studio and performance environments. Introduction to algorithmic composition.

**Prerequisite(s):** MUSC 167 or instructor consent.

**Grading:** Graded

*MUSC 168J - Techniques of Choral Conducting*

*1 unit(s)*

Hands-on course designed to help music educators and conductors gain choral conducting tools as well as refine conducting technique.

**Prerequisite(s):** Previous conducting experience

**Grading:** Graded

*MUSC 168N - Teaching Music in Choral Rehearsals*

*1 unit(s)*

Survey course designed to help choral music educators and conductors refine skills for conducting and teaching choirs at all levels. Topics include selecting literature, strengthening musicianship, building a choral program, rehearsal techniques and ensemble development.

**Prerequisite(s):** Previous Conducting Experience

**Grading:** Graded

*MUSC 169 - Digital Synthesis*

3 unit(s)

Techniques of direct digital synthesis and digital signal processing as related to composition, performance and research in new music. In-depth study of hardware and software instrument configurations as applied to various synthesis and processing algorithms.

**Prerequisite(s):** MUSC 168 (or equivalent) or instructor consent.

**Grading:** Graded

*MUSC 170A - Fundamentals of Sound Recording*

3 unit(s)

Beginning techniques in studio sound and music recording: terminology, tape editing, overdubbing, microphone technique and production techniques.

**Prerequisite(s):** MUSC 1A and MUSC 1B.

**Grading:** Graded

*MUSC 170B - Intermediate Sound Recording*

3 unit(s)

Intermediate sound recording and processing techniques in audio production: emphasis on microphone techniques, analog processing and multi-track production.

**Prerequisite(s):** MUSC 170A or instructor consent.

**Grading:** Graded

*MUSC 170C - Advanced Sound Recording Production*

3 unit(s)

Advanced production techniques in multi-track recording and digital recording, including sound construction, modulation and digital processing. Emphasis on application of techniques to group productions in synchronized audio-visual media.

**Prerequisite(s):** MUSC 170B or instructor consent.

**Grading:** Graded

*MUSC 172 - The Arts in U.S. Society*

3 unit(s)

Study of American arts and artists in their aesthetic, social, and political contexts, focusing on 20th and 21st centuries. Arts examined include architecture, poetry, music, visual arts, dance, theatre, performance art, and fiction. Special emphasis on issues of cultural diversity.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** GE Area: S Prerequisite(s): Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MUSC 173 - Thinking About Contemporary World Arts*

3 unit(s)

An interdisciplinary course on contemporary arts and culture which investigates connections between arts disciplines and world cultures. The course uses critical and creative thinking as the lens to focus on issues in the arts, especially personal and cultural identities.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*MUSC 180 - Individual Studies*

1-2 unit(s)

May be repeated up to 4 units of credit.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division standing and instructor and director consent.

**Grading:** Credit/No Credit

*MUSC 181 - Concert Listening II*

1 unit(s)

Required active involvement of all music majors in the professional musical life of the campus and community through attending programs from the master list published each semester and writing five critical reviews.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division music major.

**Grading:** Credit/No Credit

*MUSC 182 - Senior Project*

1 unit(s)

Senior capstone project for B.A. in music. By advisement and according to degree requirements either a senior thesis, lecture/demonstration or lecture/recital.

**Prerequisite(s):** Upper division standing, instructor consent and area approval.

**Grading:** Credit/No Credit

*MUSC 185A - Music for Children*

3 unit(s)

Music fundamentals for the classroom teacher. Singing, playing instruments, movement, reading notation, creating music. Kodaly, Orff, Dalcroze, techniques emphasized with multicultural approach. Technology for elementary music through lab experience.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*MUSC 186 - Singing for Music Theatre*

2 unit(s)

Theoretical and practical study of music as an extension, intensification and completion of the drama. Musical exercises and scenes, emphasizing singing, to introduce the functions and potentials of music in music theatre.

*Misc/Lab: Lecture 2 hours/Lab 2 hours*

**Prerequisite(s):** MUSC 10B, MUSC 26A and MUSC 26B.  
**Grading:** Graded

*MUSC 190A - Honors Project*

1 unit(s)

**Prerequisite(s):** Upper division standing; instructor and director consent.  
**Grading:** Credit/No Credit

**Note(s):** MUSC 190B must be completed before total of 3 units is granted.

*MUSC 190B - Honors Project*

2 unit(s)

**Prerequisite(s):** MUSC 190A.  
**Grading:** Credit/No Credit

*MUSC 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*MUSC 200 - Methods of Music Research & Writing*

3 unit(s)

Use and evaluation of resources for music research and writing; problems in critical writing and music literature history.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*MUSC 201 - Seminar in Music History*

3 unit(s)

Research and analytical studies on selected topics in music history. May be repeated once for elective credit.

**Prerequisite(s):** MUSC 200, passage of Graduate Entrance Evaluation or equivalent, and permission of instructor.  
**Grading:** Graded

*MUSC 202 - Seminar in Music Systems & Theory*

3 unit(s)

Research and analytical studies of selected theoretical and applied compositional techniques in music.

**Prerequisite(s):** MUSC 200, passage of Graduate Entrance Evaluation or equivalent, and permission of instructor.  
**Grading:** Graded

**Note(s):** Emphasis may vary.

*MUSC 203 - Seminar in Style & Performance Practices*

3 unit(s)

Study of the history of performance practices and applications in contemporary performances. May be repeated once for elective credit.

**Prerequisite(s):** MUSC 200, passage of Graduate Entrance Evaluation or equivalent, and permission of instructor.  
**Grading:** Graded

*MUSC 204 - Materials for Graduate Music Studies*

3 unit(s)

This course presents the foundation knowledge and practical skills of music systems and music history for graduate music studies.

**Grading:** Graded

*MUSC 220 - Seminar in Advanced Conducting*

3 unit(s)

Problems in conducting, advanced score reading and interpretation.

**Prerequisite(s):** Two semesters of undergraduate conducting (or equivalent) and instructor consent.  
**Grading:** Graded

*MUSC 221 - Seminar in Jazz History*

3 unit(s)

Research and analytical studies on selected topics in jazz history.

**Prerequisite(s):** MUSC 200 and classified standing.  
**Grading:** Graded

*MUSC 222 - Special Topics in Music*

1-3 unit(s)

Study of specialized subjects in music history, theory, performance or education.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Instructor consent.  
**Grading:** Graded

*MUSC 224 - Supervised Graduate Study*

1-2 unit(s)  
Repeatable for credit

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Audition and/or consent of instructor and graduate advisor.  
**Grading:** Graded

*MUSC 230 - Graduate Piano Lessons: Secondary*

1 unit(s)  
Applied piano lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 231 - Graduate Harpsichord or Organ Lessons: Secondary*

1 unit(s)  
Applied harpsichord or organ lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 232 - Advanced Field Experience--Pedagogy*

1 unit(s)  
Provides opportunity for the qualified graduate student to be involved in planning and assisting in teaching college courses in music. The work is carried on in conjunction with the regular college teacher and must have this supervising teacher's approval.

*Course may be repeated for credit for up to 4 units.*

**Grading:** Credit/No Credit

*MUSC 233 - Graduate Voice Lessons: Secondary*

1 unit(s)  
Applied voice lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 234 - Graduate String Lessons: Secondary*

*1 unit(s)*

Applied string lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 235 - Graduate Woodwind Lessons: Secondary*

*1 unit(s)*

Applied woodwind (clarinet, oboe, flute, saxophone or flute) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 236 - Graduate Brass Lessons: Secondary*

*1 unit(s)*

Applied Brass (trumpet, French horn, trombone or tuba) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 237 - Graduate Percussion Lessons: Secondary*

*1 unit(s)*

Applied percussion lessons for graduate student in a secondary area. Continuation of work from undergraduate study.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 239 - Graduate Jazz Lessons: Secondary*

*1 unit(s)*

Applied Jazz (saxophone, trumpet, guitar, piano, or trombone) lessons for graduate student in a secondary area. Continuation of work from undergraduate study.



*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 250A - ENS: Graduate Concert Choir*

*1 unit(s)*

ENS: Graduate large select choral ensemble, specializing in advanced acappella and symphonic major works from all periods.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 251 - ENS: Graduate University Chorales*

*1 unit(s)*

ENS: Rehearsal and performance of choral masterpieces and music with wide popular appeal. Graduate students involved in the University Chorales will participate in either the SJSU Women's Chorus, Men's Glee Club, or other specialized choral ensemble and will have the opportunity to study and perform high quality choral literature.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 252 - ENS: Graduate Opera Theater*

*1 unit(s)*

ENS: Training and performance experience in the field of opera. Fully-staged productions of one-act and conventional length works of varying styles.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 253 - ENS: Graduate University Symphony Orchestra*

*1 unit(s)*

ENS: Rehearsal and performance of standard orchestral and operatic repertory for graduate students.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 255 - ENS: Graduate Wind Ensemble*

1 unit(s)

ENS: Major performing group open to all graduate wind and percussion instrumentalists by audition. Select group that performs the most advanced and high quality contemporary and traditional literature for wind ensemble from all periods. Performances can include but not be limited to state and national conferences.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 257 - ENS: Graduate Jazz Orchestra*

1 unit(s)

ENS: Big band jazz performance for graduate instrumentalists and singers. Classic and new repertoire. Concert performances.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 259 - ENS: Graduate Latin Jazz Ensemble*

1 unit(s)

ENS: Performance of Afro-Latin jazz and popular music repertoires of the US, the Caribbean, and Latin America. Graduate level ensemble techniques and solo improvisation. Concert performances.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260A - ENS: Graduate Choraliers*

1 unit(s)

ENS: Small select chamber vocal group of graduates and undergraduates specializing in music from all periods, Renaissance to Contemporary.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260C - ENS: Graduate Chamber Music*

1 unit(s)

ENS: Graduate level in-depth chamber music study and performance of standard repertoire with two or more instruments plus piano.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260D - ENS: Graduate Collegium*

1 unit(s)

ENS: Graduate. Reinforces music history studies through performance. Authenticating performance of pre-Classical music on period instruments and accurate vocal/instrumental practices. Vocal and instrumental, sacred and secular music performed.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260F - ENS: Graduate Small Jazz Ensembles*

1 unit(s)

ENS: Graduate small-group jazz performance: standard literature, informal ("head") arrangements. In-class and/or public performances.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260H - ENS: Graduate Percussion Ensemble*

1 unit(s)

ENS: Performance class consisting of graduate and undergraduate percussion majors. Master classes during fall semester. Small to larger percussion ensemble works performed.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260J - ENS: Graduate String Ensemble*

1 unit(s)

ENS: Graduate chamber works for various string combinations studied and performed. Rehearsal and performance techniques for small chamber groups.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval

**Grading:** Graded

*MUSC 260K - ENS: Graduate Brass Ensemble*

1 unit(s)

ENS: Graduate level performance of duet, trio, quartet and quintet literature for mixed and homogeneous brass instruments. Literature used represents all style periods with either original or transcription materials.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 260L - ENS: Graduate Woodwind Ensemble*

1 unit(s)

Graduate level chamber works for various woodwind combinations. Rehearsal and performance techniques for small chamber groups.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 260M - ENS: Graduate Saxophone Ensemble*

1 unit(s)

ENS: Graduate overview of and performance of music for saxophone ensemble for two to twenty players. All styles studied from Renaissance to Jazz.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Audition and instructor approval  
**Grading:** Graded

*MUSC 298 - Special Study*

1-2 unit(s)

Special study in the field of music (excluding applied instruction).

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Consent of instructor, graduate advisor and the School of Music director.  
**Grading:** Mandatory CR/NC/RP

*MUSC 299 - Master's Thesis, Recital or Composition*

1-3 unit(s)

**Prerequisite(s):** Admission to candidacy and consent and approval of graduate study instructor, graduate advisor and School of Music department chair.  
**Grading:** Mandatory CR/NC/RP

*MUSC 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis, composition, or project

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semesters in a thesis, composition, or project class.  
**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

# College of Social Sciences

- Overview
- Academic Counseling Center for Excellence in the Social Sciences (ACCESS)
- Special Centers
- Teaching Credential Programs
- Jewish Studies Program
- Women, Gender and Sexuality Studies
- Courses

**Office:** Washington Square Hall 103

**Telephone:** (408) 924-5300

**Email:** college-social-sciences@sjsu.edu

**Website:** [www.sjsu.edu/socialsciences](http://www.sjsu.edu/socialsciences)

## Overview

Programs in the College of Social Sciences prepare students for work and life in Silicon Valley and a rapidly changing world. Our thirteen departments provide training for careers in counseling, criminology, environmental restoration, computerized mapping, public administration, economic analysis, organizational communication, international relations, ergonomics, urban and regional planning, and countless other fields in business, government, teaching and human services. Major courses of study emphasize the contributions of the many cultures that form our community. Internships are encouraged to help students relate academic work to the opportunities and needs of this diverse region. Completion of one of our undergraduate majors also provides an excellent foundation for advanced graduate work in one of the disciplines or at a professional school such as law or business.

New technologies increasingly improve our instruction and link us to the innovative industry of our region and to the educational resources of the world, but personal interaction between students and faculty is still prized within the College of Social Sciences. Capable and interesting teachers, active student clubs and small classes provide ideal environments for learning. If you are interested in majoring in one of the social sciences, contact an advisor in one of our departments or the dean's office. A list of programs and courses can be found on each department page in the catalog.

- Department of African American Studies
- Department of Anthropology
- Department of Chicana and Chicano Studies
- Department of Communication Studies
- Department of Economics
- Department of Environmental Studies
- Department of History
- Department of Justice Studies
- Department of Political Science
- Department of Psychology

- Department of Sociology and Interdisciplinary Social Sciences
- Department of Urban and Regional Planning

## Academic Counseling Center for Excellence in the Social Sciences (ACCESS)

**Office:** Clark Hall 240

**Telephone:** 408-924-5363

**Email:** socsci-success@sjsu.edu

**Website:** [www.sjsu.edu/access](http://www.sjsu.edu/access)

Academic Counseling Center for Excellence in the Social Science (ACCESS) is the student success center for the College of Social Sciences, located in Clark Hall 240. Both current COSS students and those students interested in minoring or majoring in a social sciences degree program are invited to stop by ACCESS for general education advising and/or help with changing majors, and to have academic policy-related questions answered. We also offer tutoring and support in social sciences statistics and writing. Are you a COSS student in need of some academic advice or perhaps need some tips about how to navigate your way around SJSU? Looking for a quiet place to study? Check out the COSS Student Success Center!

## Special Centers

The programs of the College of Social Sciences are further enriched by educational, research and training opportunities provided by the following specialized units:

Burdick Military History Project supports the study and teaching of military history through public lectures, the Veterans Oral History Project, and its specialized collection of materials relating to military history. Contact the Department of History.

Center for Development of Recycling advances education, research and dissemination of information in various areas of recycling. Contact the Department of Environmental Studies.

Center for Economic Education supports improvement in the teaching of economics through a multi-method approach and the dissemination of economics education materials. Contact the Department of Economics.

East Asian Regional Materials and Resources Center provides information and counsel about studies in Asia, including library and audio-visual material available to teachers. Contact the Department of History.

Silicon Valley Center for Global Studies (SVCGS) is a joint initiative with the College of International and Extended Studies. It develops and disseminates knowledge from research on globalization, especially related to population migration.

Sourisseau Academy promotes better understanding and appreciation of California's state and local history, with emphasis on the history of Santa Clara Valley, through graduate scholarships and collections of historical source materials. Contact the Department of History.

## Teaching Credential Programs

Teacher preparation programs are administered by the Director of Social Science Education within the College of Social Sciences in the Department of History. Both multiple subject and single subject programs are offered. The Department of Environmental Studies also offers a multiple subject program, and the Department of Communication Studies cooperates with the Department of English and Comparative Literature to prepare students for the single subject credential in English. Contact these departments for details.

## Jewish Studies Program

**Office:** Dudley Moorhead Hall 134

**Telephone:** 408-924-5500 (Voice); 408-924-5531 (Fax)

**Website:** [www.sjsu.edu/jwss](http://www.sjsu.edu/jwss)

### Professors

Jonathan P. Roth  
Mary Warner

### Assistant Professors

Brent Walters

### Other Faculty

Ignatz Ayzenberg, Director  
Victoria Harrison  
Rina Katzen

## Programs

- Jewish Studies Minor

## Women, Gender and Sexuality Studies Program

**Office:** Dudley Moorhead Hall 241

**Telephone:** 408-924-5320

### Professors

Tanya Saroj Backhru, Program Coordinator  
Shahin Gerami

## Programs

- Sociology, Women, Gender, and Sexuality Studies Concentration, BA
- Women, Gender, and Sexuality Studies Minor

*SSCI 90 - Successfully Negotiating Social Science*



1 unit(s)

Course designed to help students in the College of Social Sciences, enabling them to learn the skills and knowledge necessary to become successful students. Students will explore the ways in which different social scientists see, research, analyze, understand and communicate.

**Grading:** Graded

## Department of African American Studies

**Office:** Washington Square Hall 216

**Telephone:** 408-924-5871

**Email:** afam-studies@sjsu.edu

**Website:** www.sjsu.edu/afam

### Professors

Carlos Eduardo Garcia, Interim Chair  
Ruth P. Wilson, Chair

### Assistant Professors

Wendy Thompson Taiwo

## Overview

An indispensable part of the mission of a metropolitan university, the Department of African-American Studies provides a comprehensive liberal arts education by training our students to appreciate diversity and multicultural American society. Our unique interdisciplinary curriculum focuses on the areas of: crime/justice, politics, urbanization, religion, history, sociology/welfare, psychology, African history/politics, gender equality, aesthetics and general education courses. Our upper division courses cover such topics as the Harlem Renaissance, African American women in history, and black images in American film and television. Our faculty contributes to scholarship in the field, and we are intellectually and professionally linked to local and national African American communities through our membership and support of professional associations such as the National Council of Black Studies.

## Undergraduate

### African American Studies, BA

- Department of African American Studies
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 47

Major Requirements 36

University Electives	37
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (36 units)

### Area Requirements (18 units)

#### Historical (9 units)

*Must complete entire sequence to meet the American Institutions requirement.*

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### Complete One Course From:

- AFAM 40 - African Origins 3 *unit(s)*
- AFAM 111 - African Nations: History, Politics, and Culture 3 *unit(s)*

#### Social-Behavioral (6 units)

- AFAM 120 - Sociology of African American Communities 3 *unit(s)*
- AFAM 159 - Economic Issues in the Black Community 3 *unit(s)*

#### Cultural (3 units)

- AFAM 22 - The Humanities in African-American Culture 3 *unit(s)*

#### Senior Seminar (3 units)

- AFAM 198 - Senior Seminar in African-American Studies 3 *unit(s)*

## Major Electives (15 units)

Complete five courses from:

- AFAM 102 - African-American Music 3 *unit(s)*
- AFAM 111 - African Nations: History, Politics, and Culture 3 *unit(s)*
- AFAM 112 - African Immigrant Communities in the U.S. 3 *unit(s)*
- AFAM 125 - The Black Family: Historical/Contemporary Realities 3 *unit(s)*
- AFAM 134 - The Black Civil Rights Movements 3 *unit(s)*
- AFAM 151 - Race, Class and the Environment 3 *unit(s)*
- AFAM 152 - Black Women in the U.S. 3 *unit(s)*
- AFAM 156 - Black Women Writers: Race, Culture and Resistance 3 *unit(s)*
- AFAM 165 - Topics in Ethnic American Literature 4 *unit(s)*

## University Electives (37 units)

At least 4 units must be Upper Division. A minor or double major is recommended (selected with advisor approval).

## Total Units Required (120 units)

## Minor

### African American Studies Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

##### Required Courses (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

##### Upper Division Electives (12 units)

Chosen to complement the major (see department Chair or minor advisor for specific information).

#### Total Units Required (18 units)

### African Studies Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (15 units)

##### Core Courses (6 units)

- AFAM 40 - African Origins 3 *unit(s)*
- AFAM 111 - African Nations: History, Politics, and Culture 3 *unit(s)*

##### Elective Courses (9 units)

Complete nine units from:

- AFAM 112 - African Immigrant Communities in the U.S. *3 unit(s)*
- AFAM 119 - Africana Philosophy and Culture *3 unit(s)*
- AFAM 150 - West African Drumming and Culture *3 unit(s)*
- ENGL 123B - Literature for Global Understanding-Africa *3 unit(s) (V)*
- POLS 142 - African Politics *4 unit(s)*
- Other courses in consultation with advisor

**Total Units Required (15 units)**

## Black Women's Studies Minor

The Department of African American Studies is committed to providing students with critical and multidimensional scholarship, teaching, and community service based on Black feminist ideologies and concepts. The Black Women's Studies minor explores, examines, and engages the intellectual traditions connected to the cultural, historical, philosophical and social perspectives of the lived experience at the nexus of Blackness and womanhood; topics covered within the minor are interdisciplinary in nature. The minor emphasizes the significance of understanding power and political structures of power through the intersections of race and womanhood. Students will acquire skills in critical thinking, cultivation of dialogue, research development, and contribution to social change based on Black feminist ideologies and concepts. The coursework in the minor focuses on integrating academic and experiential scholarship, teaching, and learning.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (15 units)**

**Core Courses (9 units)**

- AFAM 2A - African Americans and the Development of America's History and Government *3 unit(s) (D2)*
- AFAM 2B - African Americans and the Development of America's History and Government *3 unit(s) (M7)*
- AFAM 152 - Black Women in the U.S. *3 unit(s)*

**Elective Courses (6 units)**

Complete six units from the list below or select another course in consultation with an advisor:

- AFAM 156 - Black Women Writers: Race, Culture and Resistance *3 unit(s)*
- AFAM 166 - African-American Women in History *3 unit(s)*
- COMM 176P - Communication and Gender *4 unit(s)*
- WOMS 20 - Women of Color in the US *3 unit(s) (D2)*
- WOMS 160 - Queering Gender, Race, and Class *3 unit(s)*

**Total Units Required (15 units)**

## Comparative U.S. Race and Ethnic Relations Minor

The Comparative U.S. Race and Ethnic Relations (CRER) Minor is a multi- and interdisciplinary program that examines the historical, cultural, and social formations of power and inequality in the United States. In addition to its emphasis on the comparative histories and experiential knowledges of marginalized racial and ethnic groups in the U.S., including but not limited to Native Americans, Black and African Americans, Latinxs, and Asian Pacific Islander Desi/Americans, this program employs a complex intersectional lens to address issues of social justice, discrimination, settler colonialism, immigration, and racialization. For a list of advisors, view the College of Social Sciences' Ethnic Studies Collaborative webpage.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (15 units)

#### Core Course (3 units)

- AFAM 25 - The Changing Majority: Power and Ethnicity in America *3 unit(s)*  
or
- CCS 25 - The Changing Majority: Power and Ethnicity in America *3 unit(s)*

#### Elective Courses (12 units)

Complete four additional courses in consultation with a CRER minor advisor (via AFAM). Minor advisors will also be available in each of the other contributing departments (i.e., AAS/SOCI/WOMS, ANTH, and CCS) to assist with advising--especially as it pertains to the department/program-specific courses.

No more than two courses from a single ethnic group or program may be selected.

- AAS 33B - Asian Americans in U.S. History II *3 unit(s)*
- AAS 125 - Filipino Experience in the United States *3 unit(s)*
- AAS 175 - Asian American Communities *3 unit(s)*
- AFAM 105 - Health, Justice, and the Black Experience *3 unit(s)*
- AFAM 106 - Race and Culture in the African Diaspora *3 unit(s)*
- AFAM 110 - Education of the Black Child *3 unit(s)*
- AFAM 112 - African Immigrant Communities in the U.S. *3 unit(s)*
- AFAM 120 - Sociology of African American Communities *3 unit(s)*
- AFAM 125 - The Black Family: Historical/Contemporary Realities *3 unit(s)*
- AFAM 130 - Psychology of the Black Community *3 unit(s)*
- AFAM 134 - The Black Civil Rights Movements *3 unit(s)*
- AFAM 137 - Religion in the Black Community *3 unit(s)*
- AFAM 142 - Race, Ethnicity, and the Law *3 unit(s)*
- AFAM 151 - Race, Class and the Environment *3 unit(s)*
- ANTH 175 - Anthropology of Native America *3 unit(s)*
- ANTH 176 - Native California: Past and Present *3 unit(s)*
- CCS 105 - Chicanos: United States/Mexico Relations *3 unit(s)*
- CCS 115 - Chicana/o Families *3 unit(s)*

- CCS 120 - Political Economy and Chicana/o Communities 3 *unit(s)*
- CCS 125 - Chicana/o Community Studies 3 *unit(s)*
- CCS 127 - Chicanas/os and the Criminal Justice System 3 *unit(s)*
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)*
- CCS 135 - Contemporary Chicana/o Issues 3 *unit(s)*
- CCS 144 - Chicana/o Literature 3 *unit(s)*
- CCS 152 - The Story of Chicano Spanish 3 *unit(s)*
- CCS 160 - Gender and Sexuality in the Chicana/o Community 3 *unit(s)*
- CCS 170 - Chicana/Chicano Film 3 *unit(s)*
- CCS 175 - Human Migrations: Global Reach 3 *unit(s)*
- CCS 185 - Teaching in a Diverse Society 3 *unit(s)*
- SOCI 142 - Critical Native American Studies 3 *unit(s)*
- WOMS 20 - Women of Color in the US 3 *unit(s)*
- WOMS 112 - Women in the Global Economy 3 *unit(s)*
- WOMS 114 - Politics of Mothering and Reproduction 3 *unit(s)*
- WOMS 160 - Queering Gender, Race, and Class 3 *unit(s)*

## Total Units Required (15 units)

*AFAM 2A - African Americans and the Development of America's History and Government*

3 *unit(s)*

Major events in America's development, emphasizing African Americans' relationship to government and other basic institutions.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

**Note(s):** Must complete the entire sequence (AFAM 2A and AFAM 2B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*AFAM 2B - African Americans and the Development of America's History and Government*

3 *unit(s)*

Major events in America's development, emphasizing African-Americans' relationship to government and other basic institutions. GE Area: D3, meets additional GE Areas when taken with AFAM 2A

*Satisfies D3 + US123: Social Issues and American Institutions*

**Prerequisite(s):** AFAM 2A

**Grading:** Graded

**Note(s):** Must complete the entire sequence (AFAM 2A and 2B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*AFAM 22 - The Humanities in African-American Culture*

3 *unit(s)*

Analysis of several of the most important African-American creative art forms and personalities. Special attention to

Black contributions in music, literature, cinema, photography and painting.

**Grading:** Graded

*AFAM 25 - The Changing Majority: Power and Ethnicity in America*

*3 unit(s)*

Comparative and historical analysis of racial minorities. Focus on Euro American response to American Indians, Asian Americans, African Americans and Mexican Americans to provide understanding of minority experience in the U.S. as well as American culture.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*AFAM 40 - African Origins*

*3 unit(s)*

Ancient African civilizations to the advent of the slave trade. Folklore and mythology manifested in ceremonies, rituals and rhythmic movements are examined.

**Grading:** Graded

*AFAM 100W - Writing Workshop*

*3 unit(s)*

Development of advanced writing skills through study of principal techniques of communication in the Black community related to Black music, literature and politics.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*AFAM 102 - African-American Music*

*3 unit(s)*

Analysis of styles and techniques of major traditions in Black music. Development of music from slave work-a-day songs to rhythm and blues and modern jazz, 1950's to the present.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 105 - Health, Justice, and the Black Experience*

*3 unit(s)*

A review of the health and health-related issues of Blacks/African Americans within the U.S.. Major disease health trends are discussed as by-products of the interaction of biological, cultural, economic and social forces in the U.S.



**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*AFAM 106 - Race and Culture in the African Diaspora*

3 unit(s)

Examination of the role of race and ethnicity amongst persons of African descent i.e., the role race and ethnicity plays in primary and secondary relationships amongst Blacks and between Black and non-Black peoples.

**Grading:** Graded

*AFAM 110 - Education of the Black Child*

3 unit(s)

Analysis of economic, sociocultural and educational issues that affect Black students. Emphasis directed at elementary and secondary school systems.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*AFAM 111 - African Nations: History, Politics, and Culture*

3 unit(s)

Examination, exploration, and analysis of societies, history, and culture of nations on the African continent over time.

**Grading:** Graded

*AFAM 112 - African Immigrant Communities in the U.S.*

3 unit(s)

An overview of Black immigrants from the African continent in the United States from 1970 to the present.

**Grading:** Graded

*AFAM 115 - The Black Community Past and Present*

3 unit(s)

Analysis of historical development of African-Americans including migrational trends of Blacks from the rural South to urban North. Search for alternatives in new institutions and modification of old ones.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*AFAM 119 - Africana Philosophy and Culture*

3 unit(s)

Philosophical examination of the ideological roots of social movements in black diaspora cultures from Be-Bop to Hip-Hop.

**Prerequisite(s):** 3 units of philosophy or upper division standing.  
**Grading:** Graded

*AFAM 120 - Sociology of African American Communities*

3 unit(s)

Sociological analysis of the African American community traces development of the community from its historical inception to contemporary urban settings. Analyzes important trends, shifting values, institutional development and urban problems. Also examines how patriarchy, race, and class shape African Americans in their everyday lives in American society.

**Grading:** Graded

*AFAM 125 - The Black Family:Historical/Contemporary Realities*

3 unit(s)

Sociological analysis of the Black family from its African roots to twenty-first century types. Influence of the American experience and the African American relationship practices

**Grading:** Graded

*AFAM 130 - Psychology of the Black Community*

3 unit(s)

Impact of Black society and culture on personality growth in light of current sociological and social-psychological studies. Social interaction, group membership within the Black community and its influence on the shaping of behavior.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 133 - Introduction to Social Issues in Planning*

4 unit(s)

Contemporary social issues related to urban and regional planning. Assessment of community social needs and resident planning. Focus on ethnic areas such as African, Asian and Mexican American neighborhoods.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 134 - The Black Civil Rights Movements*

3 unit(s)

Origins and development of Civil Rights movement from 1865 to present. Analysis of role of Martin L. King.

**Grading:** Graded

*AFAM 137 - Religion in the Black Community*

3 unit(s)

Analysis of formation and development of African-American religious ideas and institutions (i.e., Christianity, Islam, Judaism) in the Black community and their effect on the African American personality.

**Grading:** Graded

*AFAM 142 - Race, Ethnicity, and the Law*

3 unit(s)

Analysis of the politics of law and race in the U.S. with a focus on the experience of African-Americans and other racial and ethnic minorities as offenders, victims and as citizens engaged in a continuing movement for equality and an end to injustice.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 145 - Urban Policy and Its Impact on Inner City Residents*

4 unit(s)

Effects of public policy decisions on inner city populations. Implications of urban planning processes for differential consumption costs of public goods and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 150 - West African Drumming and Culture*

3 unit(s)

A study of the instrumental music, song, and dance of the African Diaspora with an emphasis on its cultural context.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 151 - Race, Class and the Environment*

3 unit(s)

Analysis of the relationship between the environmental crisis and people of color and poor communities in the U.S., emphasizing the interplay among race/ethnicity, class and politics in the struggle for environmental justice and survival by communities of color and poor people.

**Grading:** Graded

*AFAM 152 - Black Women in the U.S.*

3 unit(s)

Exploration of the social, historical, and cultural factors influencing the Black women in U.S. society.

**Grading:** Graded

*AFAM 155 - The Triumph and Tragedy of Black Athletes in U.S. History*

3 unit(s)

This course examines the significance and impact of Black athletes on popular culture, race relations and U.S. society.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 156 - Black Women Writers: Race, Culture and Resistance*

3 unit(s)

Comparative analysis of the meaning and developmental stages of womanhood for women of African ancestry as depicted in the fiction of women of African ancestry. Emphasis on the role of race and culture in shaping contemporary conceptions of womanhood among Black women.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 157 - Globalization and Technology in Youth Culture*

3 unit(s)

This course examines the impact of globalization and technology on youth worldwide from the perspective of youth in different cultures and countries. Topics will vary and focus on specific countries. Some sessions will be faculty-led international programs.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 159 - Economic Issues in the Black Community*

3 unit(s)

Analysis of continuing racial economic disadvantage in context of corporate and public policies. Exploration of new economic development and career opportunities emerging from changed environmental protection priorities.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AFAM 160 - Blacks in U.S. Politics and Society*

3 unit(s)

Examines the lives and major contributions of African-Americans to politics and U.S. society.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 161 - Black Representations in Media and New Technology*

3 unit(s)

Examination of the representation of Black people in film, TV, and traditional and social media as well as new/alternative technological informational sources.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 164 - Survey of Black Business Organizations*

3 unit(s)

Private sector businesses from the perspective of racial ownership and consumption patterns. Historical

development, future trends, consumer market, government regulations and funding support as they impact the success of Black business.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 165 - Topics in Ethnic American Literature*

*4 unit(s)*

Focused study of a topic in ethnic American Literature, such as African American, Asian American, Latino American, or ethnic autobiography. Check schedule of classes for current offering.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 166 - African-American Women in History*

*3 unit(s)*

Role of African American women in shaping U.S. history through a shared afrocentric gender legacy of activism and public life guardianship. Resulting impacts on abolition, lynching deterrence, labor unions, civil rights and professional activities.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AFAM 180 - Individual Studies*

*1-4 unit(s)*

Individual research project and field activity on phase or topic not covered in regular course offerings.

**Prerequisite(s):** Upper division standing.

**Grading:** Credit/No Credit

*AFAM 184 - Directed Reading*

*1-4 unit(s)*

Limited to qualified upper division students.

**Grading:** Credit/No Credit

*AFAM 190 - Internship in Community Development*

*1-4 unit(s)*

Supervised placement in practical situations where community workers are employed: community planning, correctional services, community development agencies, etc.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Credit/No Credit

*AFAM 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*AFAM 198 - Senior Seminar in African-American Studies*

3 unit(s)

Major themes and topics in the African-American experience analyzed through readings, reports and discussions. Topics and materials vary each semester. Course is repeatable for 6 unit maximum.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** AFAM 2A, AFAM 2B and senior standing.

**Grading:** Graded

*AFAM 200 - Colloquium in African Origins*

3 unit(s)

Analysis of historical writings of pre-colonial and colonial West Africa as a relevant background tool to the history of Black people in the U.S. Discussions based on assumption that assignments have been read in advance.

**Prerequisite(s):** Upper division or graduate standing.

**Grading:** Graded

*AFAM 210 - Seminar in African-American History*

3 unit(s)

Detailed study and survey of the dispersal of African peoples from Africa to the United States and to other parts of the Americas.

**Grading:** Graded

*AFAM 220 - Socio-Psychological Development of Black Community*

3 unit(s)

Analysis of various aspects of socio-psychological development in the Black community. Particular emphasis on socialization and social perception, ghettoization (causes and consequences), prejudice, stress and inter-group relations.

**Grading:** Graded

*AFAM 240 - Seminar in Black Politics and Urban Problems*

3 unit(s)

Analysis of the development of Black political power in selected urban areas, with an emphasis on its relationship to the general urban crisis. Special study of the ramifications of Black political development on the county, state and federal governmental levels with specific reference to congressional actions and judicial decisions.

**Grading:** Graded

*AFAM 298 - Special Studies*

1-6 unit(s)

Advanced individual research and projects related to the Black community.

**Prerequisite(s):** Consent of graduate advisor.

**Grading:** Mandatory CR/NC/RP

*AFRS 142 - African Politics*

4 unit(s)

Basic concepts, theoretical perspectives, and information to understand the evolution of contemporary African states. Begins with a study of colonialism, and proceeds to nationalism, personalistic and military rule, development, democratization, and inter-state and civil war.

**Grading:** Graded

*AFRS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

## Department of Anthropology

**Office:** Clark Hall 469

**Telephone:** 408-924-5710

**Email:** [anthropology@sjsu.edu](mailto:anthropology@sjsu.edu)

**Website:** [www.sjsu.edu/anthropology](http://www.sjsu.edu/anthropology)

### Professors

Chuck Darrah  
Jan English-Lueck  
Roberto Gonzalez, Chair  
Marco Meniketti  
Elizabeth Weiss

### Associate Professors

AJ Faas  
Charlotte Sunseri

### Assistant Professors

Melissa Beresford

## Overview

## Anthropology Program

Anthropology majors study how humans live and have lived, present and past, and apply that knowledge to contemporary issues, learning how to articulate an anthropological perspective on human behavior. Our students develop skills in research, data analysis and clear and effective communication, preparing them to live in a complex, culturally diverse world. The Department of Anthropology's core curriculum provides an overview to the discipline as well as courses in cultural anthropology, archaeology, and physical anthropology. There are many opportunities for students to engage in research and service projects, and our faculty are scholars who bring their research into the classroom to enhance learning. We offer a BA in anthropology, an MA in applied anthropology, a BA in behavioral science, and a BA in organizational studies. Our graduates pursue careers in a wide range of professions, including law, medicine, business, social work, and health care.

## Behavioral Sciences Program

Behavioral science majors develop an interdisciplinary perspective on human behavior and an understanding of the psychological, social and cultural dimensions to being human in a complex society. Offered cooperatively by the Departments of Anthropology, Psychology and Sociology, the Behavioral Science Program is housed in the Department of Anthropology, which oversees academic advising. The program prepares graduates for a variety of jobs that require working with social science data and with people. Many of our alumni have pursued graduate work in health care, social work, human resources, and other fields. The Department of Anthropology provides all academic advising for the Behavioral Science Program.

## Undergraduate

### Anthropology, BA

- Department of Anthropology
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	3
Major Requirements	42
University Electives	34
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### General Education/American Institution Requirements



Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

#### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

#### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

#### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)

- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (3 units)

Complete three units from:

- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4)
- SOCI 102 - Introduction to Statistics 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)
- GEOG 12 - Global Geography 3 *unit(s)* (D2)

## Major Requirements (42 units)

### Core Courses (15 units)

- ANTH 11 - Cultural Anthropology 3 *unit(s)* (D1)
- ANTH 12 - Introduction to Human Evolution 3 *unit(s)* (B2)
- ANTH 13 - Archaeology 3 *unit(s)* (A3)
- ANTH 131 - Theories of Culture 3 *unit(s)*
- ANTH 191 - Frontiers of Anthropology 3 *unit(s)*

### Research Methods (3 units)

Complete three units from:

- ANTH 149 - Ethnographic Methods 3 *unit(s)*
- ANTH 155 - Forensic Osteology 3 *unit(s)*
- ANTH 168 - Archaeological Methodology 3 *unit(s)*
- ANTH 169 - Archaeological Site Excavation 3 *unit(s)*

### Cultural Anthropology (6 units)

Complete six units from:

- ANTH 102 - Silicon Valley Connections 3 *unit(s)*
- ANTH 105 - Applied Anthropology 3 *unit(s)*
- ANTH 107 - Eating Culture: The Anthropology of Food 3 *unit(s)*
- ANTH 108 - Medical Anthropology 3 *unit(s)*
- ANTH 125 - Urban Anthropology 3 *unit(s)*

- ANTH 129 - Environmental Anthropology 3 unit(s)
- ANTH 130 - Kin, Kith, and Community: The Anthropology of Social Organization 3 unit(s)
- ANTH 132 - Creating Built Worlds 3 unit(s)
- ANTH 134 - Systemic Leadership 3 unit(s)
- ANTH 136 - Thought Control in Contemporary Society 3 unit(s)
- ANTH 142 - Culture in Mind 3 unit(s)
- ANTH 143 - Culture and Adaptation 3 unit(s)
- ANTH 144 - Gifts, Markets, and Power 3 unit(s)
- ANTH 148 - Religion and Anthropology 3 unit(s)
- ANTH 149 - Ethnographic Methods 3 unit(s)
- ANTH 173 - Multimedia Anthropology 3 unit(s)
- ANTH 175 - Anthropology of Native America 3 unit(s)
- ANTH 176 - Native California: Past and Present 3 unit(s)
- ANTH 177 - Anthropology of Asia 3 unit(s)

## Archaeology (6 units)

Complete six units from:

- ANTH 143 - Culture and Adaptation 3 unit(s)
- ANTH 161 - Old World Civilizations 3 unit(s)
- ANTH 162 - Inca, Aztec and Maya Civilization 3 unit(s)
- ANTH 164 - North America before 1492 3 unit(s)
- ANTH 165 - Historical Archaeology 3 unit(s)
- ANTH 168 - Archaeological Methodology 3 unit(s)
- ANTH 169 - Archaeological Site Excavation 3 unit(s)

## Physical Anthropology (6 units)

Complete six units from:

- ANTH 151 - Modernity and Disease 3 unit(s)
- ANTH 152 - Becoming Human 3 unit(s)
- ANTH 154 - Monkeys, Apes and Humans 3 unit(s)
- ANTH 155 - Forensic Osteology 3 unit(s)
- ANTH 156 - Bioarchaeology 3 unit(s)
- ANTH 157 - Forensic Anthropology 3 unit(s)
- ANTH 159 - Mummies 3 unit(s)

## Anthropology Electives (6 units)

All current upper-division anthropology courses, except SJSU Studies Area R, S, or V courses, and any of the following courses as appropriate and with approval of advisor.

*Double major and second baccalaureate requirements are the same as for the regular major except only 6 upper division anthropology electives are needed for a total of 30 units.*

- ANTH 180 - Individual Studies 1-4 unit(s)
- ANTH 184 - Directed Reading 1-4 unit(s)
- ANTH 187 - Special Topics 3 unit(s)

- ANTH 190 - Designing Research 3 *unit(s)*
- ANTH 195 - Anthropology Practicum 1-6 *unit(s)*

## University Electives (34 units)

## Total Units Required (120 units)

# Behavioral Science, BA

Behavioral Science majors develop an interdisciplinary perspective on human behavior and an understanding of psychological, social and cultural dimensions to being human in a complex society. Offered cooperatively by the Departments of Anthropology, Psychology and Sociology, the Behavioral Science Program is housed in the Department of Anthropology, which oversees academic advising. The program prepares graduates for a variety of jobs that require working with social science data and with people. Many of our alumni have pursued careers in human resources, social work, counseling, sales and marketing and law enforcement.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	47
Major Requirements	48
University Electives	25
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

## Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (48 units)

### Core Courses (15 units)

- ANTH 11 - Cultural Anthropology 3 *unit(s)* (D1)
- ANTH 193 - Behavioral Science in Practice 3 *unit(s)* (ANTH 193 can also be taken as PSYC 193 and SOCI 193)
- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- SOCI 1 - Introduction to Sociology 3 *unit(s)* (D1)

### Complete Three Units From:

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4) (SOCI 15 can also be taken as SOCS 15)
- SOCI 102 - Introduction to Statistics 3 *unit(s)* (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Methods Requirement

Students must complete at least one of the following courses:

A 3-unit maximum of individual studies may be used to meet the degree requirements.

- ANTH 149 - Ethnographic Methods 3 *unit(s)*
- ANTH 165 - Historical Archaeology 3 *unit(s)*
- PSYC 18 - Introduction to Research Methods 3 *unit(s)*
- PSYC 120 - Advanced Research Methods and Design 4 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*

## Anthropology (9 units)

Three courses (at least 2 upper division) which may include

- ANTH 149 - Ethnographic Methods 3 *unit(s)*
- ANTH 165 - Historical Archaeology 3 *unit(s)*
- ANTH 168 - Archaeological Methodology 3 *unit(s)*

## Psychology (9 units)

Three courses in psychology (at least 2 upper division) which may include

- PSYC 18 - Introduction to Research Methods 3 *unit(s)*
- PSYC 120 - Advanced Research Methods and Design 4 *unit(s)*

## Sociology (9 units)

- SOCI 101 - Social Theory 3 *unit(s)*

## Two Additional Upper Division Sociology Courses

Two additional upper division sociology courses which may include:

- SOCI 104 - Quantitative Research Methods 3 unit(s)

## Area Specialization (6 units)

*Specializations are a cluster of courses used by departments for advising purposes. Specializations will not appear on transcripts or diplomas. Please see advisor for more details.*

Two additional upper division anthropology, psychology, or sociology courses, except SJSU Studies Area R, S, or V courses, approved by Behavioral Science advisor.

## University Electives (25 units)

*At least one unit must be Upper Division course.*

## Total Units Required (120 units)

# Organizational Studies, BA

The BA in Organizational Studies, offered by the Department of Anthropology, is an interdisciplinary major designed to help students develop skills for careers in a variety of organizations including small businesses, multinational corporations, non-profit organizations, and local, state, and national government agencies. Organizational studies courses are focused on giving students skills for real-world problem solving. Students take courses across a wide range of social science disciplines including anthropology, communications studies, economics, political science, psychology, and sociology. Organizational studies is ideally suited for students who aim to pursue careers in business, government, or the non-profit sector, where knowing how organizations work is a key to success.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 47

Major Preparation 38-44

Major Requirements 12-18

University Electives 11-23

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)



## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (38-44 units)

### Core Courses (23-24 units)

- ANTH 133 - Organizational Cultures 3 *unit(s)*
- ORGS 101 - People & Organizations 3 *unit(s)*
- ORGS 102 - Organizations, Inquiry & Analysis 4 *unit(s)*
- ORGS 103 - Organizational Studies Capstone 4 *unit(s)*

### Complete One Course From:

- ENGL 100WB - Written Communication: Business 3 *unit(s)* (Z)
- LLD 100WB - Writing Workshop for Business Students 3 *unit(s)* (Z)
- Any Social Science 100W 3 *unit(s)*

### Complete Three Units From:

- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)

### Complete One Methods Course:

- ANTH 149 - Ethnographic Methods 3 *unit(s)*
- COMM 150I - Inquiry in Organizational Communication 4 *unit(s)*
- POLS 100M - Political Inquiry 4 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*

## Depth of Study (15-20 units)

## Organizations and Identity (3-4 units)

Take one course in organizations and identity

- ANTH 130 - Kin, Kith, and Community: The Anthropology of Social Organization 3 *unit(s)*
- COMM 144F - Organizational Communication 4 *unit(s)*
- ECON 101 - Microeconomic Analysis 4 *unit(s)*
- ECON 158 - Economics of Entrepreneurship 4 *unit(s)*
- SOCI 173 - Socialization and Identity 3 *unit(s)*

## Organizations and Society (6-8 units)

Take two courses in organizations and society

- ANTH 102 - Silicon Valley Connections 3 *unit(s)*
- COMM 164F - Communication and Global Organizations 4 *unit(s)*
- ECON 102 - Macroeconomic Analysis 4 *unit(s)*
- PSYC 154 - Social Psychology 3 *unit(s)*
- SOCI 146 - Work, Power, and Leisure 3 *unit(s)*
- SOCI 163 - Social Change 3 *unit(s)*

## Organizational Processes (6-8 units)

Take two courses in organizational processes

- ANTH 105 - Applied Anthropology 3 *unit(s)*
- COMM 114P - Business and Professional Speaking 4 *unit(s)*
- COMM 124P - Communication Training and Development 4 *unit(s)*
- ECON 121 - Industrial Organization 4 *unit(s)*
- POLS 103 - Local Government and Politics 4 *unit(s)*
- SOCI 169 - Political Sociology 3 *unit(s)*

## Advisor Approved Minor (12-18 units)

## University Electives (11-23 units)

## Total Units Required (120 units)

## Master

## Applied Anthropology, MA

Offered by the Department of Anthropology, more information about the Masters in Applied Anthropology program and important dates can be obtained at the department website: [www.sjsu.edu/anthropology](http://www.sjsu.edu/anthropology).

## Admissions Requirements

Candidates must meet all the university admission requirements. The university-level graduate application is separate from the application you send to the department. You will need to apply separately to the university to obtain approval

for university-level admission and to the department to obtain admission into the Applied Anthropology Program. Minimum requirements for the program are a bachelor's degree in Anthropology or a core of introductory Cultural and Physical or Archaeological Anthropology; an upper-division methods course in Ethnography, Archaeology, or Osteology; an upper-division anthropological theory course; and 6 elective units in upper-division Anthropology (approximately 18 units overall). A 3.0 grade point average (B or better) in the last 60 semester units of undergraduate work and all Anthropology courses is required. Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Further requirements of the department for advancement to candidacy include completion of 18 units in the graduate program and submission of a project or thesis proposal to the department's Graduate Committee. In order to advance to candidacy, all students must participate in the First Year Review in their second semester. Further information on the First Year Review is available on the program FAQ on the Department of Anthropology Website: [www.sjsu.edu/anthropology/grad\\_degree](http://www.sjsu.edu/anthropology/grad_degree).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MA -Applied Anthropology Graduation Requirements

Each course of study must include 36 semester units. Eighteen of the units are in the Applied Anthropology core. Six units of upper-division or graduate Anthropology depth courses will be taken with the permission of the student's advisor, and 6 units of upper-division or graduate classes outside of Anthropology emphasizing the student's area of application will be taken with the permission of the student's advisor. Six additional units will reflect research or professional internships and thesis or project report preparation. SJSU Studies courses may not be used to fulfill the Anthropology depth requirement or field of application requirement. In addition, students are expected to conduct original research and write a thesis or, alternatively, to be engaged in professional activity and write a project report. All research or professional activity must conform to the ethical standards of the discipline of Anthropology as outlined by the American Anthropological Association, the Society for Applied Anthropology, and the university's Institutional Review Board. The policy on timely progression to degree is available on the Applied Anthropology program website: [www.sjsu.edu/anthropology/grad\\_degree/programfaq/index.html#reqprogress](http://www.sjsu.edu/anthropology/grad_degree/programfaq/index.html#reqprogress).

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students must choose between Plan A (Thesis) or Plan B (Project) in order to graduate. In both cases, students must submit (to the department) and have approved a proposal for the work they are undertaking. For more information on Plan A and Plan B options and how to choose between them, please see the program FAQ on the Department of Anthropology website: [www.sjsu.edu/anthropology/grad\\_degree/](http://www.sjsu.edu/anthropology/grad_degree/).

### Plan A (Thesis)

Plan A students enroll in ANTH 299 - Master's Thesis and complete a thesis under supervision of a department committee and submit it to the University Graduate Studies & Research Office for final approval. A thesis is a scholarly contribution to general knowledge. It follows a fairly standard, traditional form across disciplines and fields, and must conform to the guidelines required by the College of Graduate Studies. Typically, a thesis has an introductory chapter that includes a problem statement, a literature review chapter followed by one on methodology, one or more chapters of data and findings, an analytical/interpretive chapter and a concluding chapter. This basic template can be modified to best meet your needs, but it must be done in consultation with your committee chair to insure it meets university requirements.

### Plan B (Project)

Plan B students enroll in ANTH 298 - Anthropology Project and undertake a project in applied anthropology and prepare a report documenting the process and results. The report is submitted to the anthropology graduate faculty, but not College of Graduate Studies. All research or professional activity must conform to the ethical standards of the discipline of anthropology as outlined by the American Anthropological Association, the Society for Applied Anthropology and the requirements of the university's Institutional Review Board. A project report documents some activity that the student undertook to apply anthropological skills and knowledge. Because it is not submitted to College of Graduate Studies, it does not have to meet that office's thesis requirements. Specifically, its length and organization are more variable and must be negotiated with the committee chair and the graduate faculty of the department. Project reports may be as brief as 50 pages and as long as several hundred. The report will typically document the problem, question or issue that stimulated the application; a literature review that includes both the history of the specific problem and its context, as well as comparable problems elsewhere is included. It will document in detail the application (i.e., what the student did), its rationale (i.e., why the student took the steps he or she did), and the outcomes (i.e., what happened). Although the emphasis will be on solving or addressing a particular problem, the report will also include systematic reflection on what happened and why, the larger lessons the student learned, and how they might inform practice in the future.

## Masters Requirements (36 units)

### Core Courses (18 units)

- ANTH 230 - Theory in Practice 3 *unit(s)* (GWAR)
- ANTH 231 - Applications Core 3 *unit(s)*
- ANTH 232 - Applications Core 3 *unit(s)*
- ANTH 233 - Fields of Application 3 *unit(s)*
- ANTH 234 - Advanced Research Methods 3 *unit(s)*
- ANTH 235 - Quantitative Methods 3 *unit(s)* (Advisor approved elective may be substituted for ANTH 235)

## Anthropology Depth Requirement (6 units)

Two 3-unit upper division anthropology courses approved by faculty advisor

## Field of Application Requirement (6 units)

Two 3-unit upper division SJSU courses approved by faculty advisor

## Culminating Experience (6 units)

- ANTH 280 - Individual Studies *1-4 unit(s) (3 units required)*

## Complete One Option From (Plan A or Plan B):

### Plan A (Thesis)

- ANTH 299 - Master's Thesis *1-6 unit(s)*

### Plan B (Project)

- ANTH 298 - Anthropology Project *1-6 unit(s) (3 units required)*

## Total Units Required (36 units)

Elective courses must be planned in consultation with the Anthropology Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Anthropology Minor

An anthropology minor complements any career in which understanding human behavior is important. It is especially relevant to business majors and pre-professional students preparing for careers in law, medicine, or social work. Anthropology minors learn many useful skills including cultural competency, critical thinking, research design, and professional writing skills that are increasing in demand in private public, and non-profit organizations. Many students minor in anthropology simply because they find that learning about the human species is interesting and enjoyable.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

- Four upper division anthropology electives (advisor consultation available) *12 unit(s)*

### Complete Two Courses From:

- ANTH 11 - Cultural Anthropology *3 unit(s) (D1)*
- ANTH 12 - Introduction to Human Evolution *3 unit(s) (B2)*
- ANTH 13 - Archaeology *3 unit(s) (A3)*

### Total Units Required (18 units)

## Native American Studies Minor

The interdisciplinary minor in Native American Studies gives students a deeper knowledge of the rich cultural heritage of our continent's indigenous peoples. The minor provides students an opportunity to learn about the historical and contemporary struggles and achievements of Native Americans. Over the years our students have had the opportunity to work and study in collaboration with the Muwekma Ohlone, the Paiute, and other descendant communities. The Native American minor is particularly well suited for those seeking careers in heritage management or government.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

#### Historical Core (3 units)

- ANTH 164 - North America before 1492 *3 unit(s)*

#### Cultural Core (6 units)

Complete two courses from:

- AMS 159 - Nature and World Cultures *3 unit(s) (V)*
- ANTH 162 - Inca, Aztec and Maya Civilization *3 unit(s)*
- ANTH 175 - Anthropology of Native America *3 unit(s)*
- ANTH 176 - Native California: Past and Present *3 unit(s)*

#### Additional Courses (9 units)

Complete three courses from:

- ANTH 129 - Environmental Anthropology *3 unit(s)*
- ANTH 146 - Culture and Conflict *3 unit(s) (V)*
- ANTH 156 - Bioarchaeology *3 unit(s)*
- ANTH 165 - Historical Archaeology *3 unit(s)*

- ARTH 182A - Art of the Americas 3 *unit(s)*
- CCS 105 - Chicanos: United States/Mexico Relations 3 *unit(s)*
- COMM 174 - Intercultural Comm & Struct Inequality 3 *unit(s)* (S)
- HIST 181 - Advanced Topics in American History 4 *unit(s)*
- HIST 189A - California History to 1900 4 *unit(s)* (US3)
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)
- WOMS 20 - Women of Color in the US 3 *unit(s)* (D2)

## Total Units Required (18 units)

After consultation with an advisor, experimental courses (ANTH 195) may be used to fulfill minor requirements.

## Values, Technology and Society Minor

This interdisciplinary minor groups existing courses from a number of departments into an integrated study of the interaction of values, technology and society as they give shape and direction to the world in which we live. In particular, the minor focuses on the increasing recognition of the need to assert human values (in particular, moral, social, aesthetic and political values) given the accelerating development of modern technology and the associated increasing complexity and interconnectedness of our lives. Courses in the minor examine these themes as they are reflected in such issues as war and peace, the environment, health, modern science and technology, our use of computers, and the expression of values in our technological society through ethics, art, design and religion.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

### Core Courses (9 units)

#### Complete One Course From:

- ANTH 11 - Cultural Anthropology 3 *unit(s)* (D1)
- ANTH 13 - Archaeology 3 *unit(s)* (A3)

#### Complete Two Courses From:

- ANTH 132 - Creating Built Worlds 3 *unit(s)*
- ANTH 143 - Culture and Adaptation 3 *unit(s)*
- PHIL 110 - Science, Technology and Human Values 3 *unit(s)* (V)
- TECH 198 - Technology and Civilization 3 *unit(s)* (V)

### Electives (9 units)

Three courses (9 units) chosen from the following approved list selected in consultation with the program advisor; one additional core course may be substituted for an elective course with advisor approval. Students are encouraged to select courses that address one of the following program foci.

**Complete Three Courses From:**

*Students may take up to 6 units of lower division coursework in completing the minor requirements.*

## People and Environments

- BIOL 110 - Biodiversity and Biopolitics 3 unit(s) (R)
- ENVS 1 - Introduction to Environmental Issues 3 unit(s) (D1)
- ENVS 150 - Introduction to Environmental Thought 3 unit(s) (S)
- GEOL 111 - Geology and the Environment 3 unit(s) (R)
- METR 112 - Global Climate Changes 3 unit(s) (R)
- PSYC 173 - Human Factors 3 unit(s)

## Health and Medicine

- ANTH 151 - Modernity and Disease 3 unit(s)
- PH 135 - Health Issues in a Multicultural Society 3 unit(s) (S)
- SOCI 166 - Medical Sociology 3 unit(s)

## Technology and Social Control

- ANTH 136 - Thought Control in Contemporary Society 3 unit(s)
- ANTH 173 - Multimedia Anthropology 3 unit(s)
- ENVS 152 - Globalization and the Environment 3 unit(s) (R)
- RTVF 110 - Media and Culture 3 unit(s) (S)

## Total Units Required (18 units)

### *ANTH 11 - Cultural Anthropology*

3 unit(s)

Basic concepts, theories and methods used in the comparative study of socio-cultural systems. Includes cultural ecology and change; political, economic and kinship systems; language, art and religion; cultural perspectives on contemporary issues.

*Satisfies D1: Human Behavior*

**Grading:** Graded

### *ANTH 12 - Introduction to Human Evolution*

3 unit(s)

The human organism from an evolutionary perspective. The foundations of life and evolutionary theory. Introduction to primate behavior and the fossil record. Human biocultural evolution over the last sixty million years.



*Satisfies B2: Life Science*

**Grading:** Graded

*ANTH 13 - Archaeology*

*3 unit(s)*

How archaeologists invent their own version of the past, illustrated with compelling Old and New World discoveries from early prehistory to the present. How archaeological sites are discovered, excavated and analyzed; how facts are tested and fictions unmasked.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*ANTH 25 - Human Lifecourse in Context*

*3 unit(s)*

Human development and its physiological, psychological and sociocultural contexts. Cross-cultural perspectives on infancy, childhood, adolescence, adulthood and old age. The role of university education in the life span.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*ANTH 92 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*ANTH 100W - Writing Workshop*

*3 unit(s)*

Practice in improvement of writing skills appropriate to the fields of anthropology and behavioral science. Includes essays, reports and scholarly communication.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*ANTH 102 - Silicon Valley Connections*

*3 unit(s)*

Examines issues of cultural diversity, work and family. technology in daily life, attachment to organizations, and community building in Silicon Valley through an anthropological perspective. Connections to other global regions are explored; public policy implications are developed and analyzed.

**Prerequisite(s):** Upper Division Standing  
**Grading:** Graded

*ANTH 105 - Applied Anthropology*

3 unit(s)

Use of anthropological knowledge in problem solving and policy making. Survey of applied anthropology, models of applying anthropology and affecting policy making, and the use of anthropology by non-professionals in diverse careers.

**Prerequisite(s):** ANTH 11 or instructor consent.  
**Grading:** Graded

*ANTH 107 - Eating Culture: The Anthropology of Food*

3 unit(s)

This course will explore the many ways in which humans seek, collect, grow, transform and consume foods. We will examine elements of human evolutionary history that mold our current consumption choices. Changes in subsistence strategies, human migration, and colonial expansions remade our landscapes, kitchens, cuisines and our bodies. We will identify and analyze the material processes of food production, preparation and consumption; the cognitive models that define our food choices and the ways in which power and inequality drive global feast and famine. The course will draw on archaeological, biological and cultural anthropologies, as well as examining the potential applications by anthropologists of food.

**Prerequisite(s):** ANTH 11, Upper Division Standing.  
**Grading:** Graded

*ANTH 108 - Medical Anthropology*

3 unit(s)

A comprehensive examination of culture, sickness and healing in a cross-cultural perspective, emphasizing ecological/evolutionary bases of disease and healing and cultural dimensions of health in modern world.

**Prerequisite(s):** ANTH 11 or instructor consent.  
**Grading:** Graded

*ANTH 114 - Legacy of Asia*

3 unit(s)

Interdisciplinary focus on continuity and change in China and India as these ancient civilizations responded to challenges throughout their history.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 115 - The Emerging Global Culture*

3 unit(s)

Introduction to systems concepts and approach as a way to investigate the global impacts of industrial technology on political, economic, social and moral/psychological structures of humankind.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 122 - Magic, Science and Religion*

3 unit(s)

Exploring the ways in which people have attempted to gain mastery over the natural and supernatural worlds beginning with prehistoric times and concluding with modern day society and the contemporary world.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 125 - Urban Anthropology*

3 unit(s)

Anthropological theories and methods in analyzing the global effects of urban growth. Relevance of anthropological approach in understanding our local multiethnic metropolitan area.

**Prerequisite(s):** ANTH 11 or instructor consent.

**Grading:** Graded

*ANTH 129 - Environmental Anthropology*

3 unit(s)

Anthropological examination of humans' relationship to their biological environment. Course topics include population growth, resource consumption, human induced climate change, biodiversity, solid and hazardous waste, economic and cultural patterns affecting the environment, environmental risk, water resources, hazards, disasters, sustainable initiatives.

**Prerequisite(s):** ANTH 11

**Grading:** Graded

*ANTH 130 - Kin, Kith, and Community: The Anthropology of Social Organization*

3 unit(s)

Overview of social organization focused on local forms of human relationships: kinship, non-kin relations such as friendship and networking, and community. Explores the principles of kinship and community-building. Examples will be drawn from small-scale, complex and international societies.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 131 - Theories of Culture*

3 unit(s)

Seminar on evolutionary, functional and structural theories of culture. Analysis of contemporary theory and development of the discipline of anthropology.

**Prerequisite(s):** Upper division standing; ANTH 11; ANTH 12 or ANTH 13 or declared Anthropology major or instructor consent.

**Grading:** Graded

*ANTH 132 - Creating Built Worlds*

3 unit(s)

Cross-cultural exploration of material expressions of culture. Analysis of production and consumption of places, shelters, and goods. Implications for design and policy.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 133 - Organizational Cultures*

3 unit(s)

Complex organizations as dynamic sociocultural systems. Topics include organizational culture, cross-cultural study of organizations, organizational ethnography, cultural diversity, organizational learning and relevance of a cultural approach to enhance organizational effectiveness in a rapidly-changing world.

**Prerequisite(s):** ANTH 11 or instructor consent.

**Grading:** Graded

*ANTH 134 - Systemic Leadership*

3 unit(s)

Examination of systemic leadership thought and practice, especially its application to helping resolve complex problematic issues more effectively and responsibly. Focus is on leading collaborative change efforts with diverse sets of stakeholders in group, organizational, community, cultural, and global settings.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 136 - Thought Control in Contemporary Society*

3 unit(s)

Anthropological analysis of sociocultural controls influencing and regulating human thought and behavior in the contemporary period. Topics include propaganda, censorship, undue influence, coercive persuasion and

"brainwashing," groupthink, messianic cults, totalitarianism, technologies of control, ritualized rebellion, resistance movements, and democratic alternatives.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 140 - Human Sexuality*

3 unit(s)

Biological and sociocultural facets of human sexuality. Evolution and physiology of sex, reproductive biology/ethics and cross-cultural expression of sexual behavior.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not acceptable as an elective in the Biology major.

*ANTH 142 - Culture in Mind*

3 unit(s)

Exploration of self, identity and behavior in cultural context. Cognition, socialization, cross-cultural mental health issues and comparison of intercultural communication modes.

**Prerequisite(s):** ANTH 11, ANTH 25 or instructor consent.

**Grading:** Graded

*ANTH 143 - Culture and Adaptation*

3 unit(s)

Explores the relationship between adaptive human behavior and the environment. Theories of interaction between biology, environment and culture are illustrated by examples of mobile foraging peoples, village sedentary farmers, complex chiefdoms and state-level societies.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 144 - Gifts, Markets, and Power*

3 unit(s)

Cross-cultural analysis of economic systems. Topics include reciprocity, redistribution, and market exchange; the history of money and virtual currencies; the cultural construction of debt and credit; corporate capitalism and cyclical crises; global economic integration; and contemporary "alternative" economic systems.

**Prerequisite(s):** ANTH 11 or Instructor Consent

**Grading:** Graded

*ANTH 145 - Middle Eastern Traditions*

3 unit(s)

Introduction to the peoples and cultures of the Middle East through exploration of the cooperation, competition, conflict and dialogues between the ethnic, national, and religious communities of contemporary Middle Eastern countries.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 146 - Culture and Conflict*

3 unit(s)

Problems of change, especially in multiethnic societies of both established and emerging nations. Technological development, modernization, social changes and value conflicts.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 148 - Religion and Anthropology*

3 unit(s)

Comparative anthropological study of religious systems and world views; Anthropological theories concerning origin and evolution of religion; structure and function of ritual and myth; types of religious specialists.

**Prerequisite(s):** ANTH 11, ANTH 25 or instructor consent.

**Grading:** Graded

*ANTH 149 - Ethnographic Methods*

3 unit(s)

Qualitative methods: research design, participant observation, collection of life histories, ethical responsibilities, interviewing, analysis and ethnographic writing.

**Prerequisite(s):** ANTH 11 or instructor consent.

**Grading:** Graded

*ANTH 151 - Modernity and Disease*

3 unit(s)

Modernity and Disease explores the effects of the modern world on human biology, with specific emphasis on adaptations to the last several decades of environmental changes. Topics include reproduction, diet, and infectious, geriatric and environmental diseases.

**Prerequisite(s):** ANTH 12 or instructor consent.  
**Grading:** Graded

*ANTH 152 - Becoming Human*

3 unit(s)

This course reviews the fossil evidence for human evolution. It emphasizes areas of scientific controversy in paleoanthropology by assessing recent fossil discoveries and molecular data. Lectures are supplemented with lab demonstration of modern skeletal materials and reproductions of fossil hominids.

**Prerequisite(s):** ANTH 12 or instructor consent.  
**Grading:** Graded

*ANTH 154 - Monkeys, Apes and Humans*

3 unit(s)

Behavior, ecology and evolution of our closest animal relatives, the nonhuman primates. Interpretive emphasis toward broader understanding of human evolution and behavior.

**Prerequisite(s):** Any lower division anthropology or psychology course or instructor consent.  
**Grading:** Graded

*ANTH 155 - Forensic Osteology*

3 unit(s)

The human skeletal system for forensic identification. Lab experience in identification of osteological material to answer questions regarding sex, age, ethnicity and cause of death.

**Prerequisite(s):** ANTH 12 or Instructor Consent.  
**Grading:** Graded

*ANTH 156 - Bioarchaeology*

3 unit(s)

Study of human skeletal remains from archaeological setting to aid in reconstructing the biological and cultural past. Current theoretical and methodological issues in bioarchaeology. Emphasis on potential of skeletal analysis for uncovering disease and trauma, subsistence patterns, biological relatedness, physical activity and diverse reactions to stressors.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*ANTH 157 - Forensic Anthropology*

3 unit(s)

An overview of forensic anthropological methods and applications emphasizing the recovery and interpretation of human remains within the context of multidisciplinary scientific death investigation. Topics include the history of the discipline and a concentrated hands-on overview of basic human osteological identification.

**Prerequisite(s):** ANTH 12, BIOL 10, BIOL 21, or BIOL 65.  
**Grading:** Graded

*ANTH 159 - Mummies*

3 unit(s)

Explore mummies from around the world. Examine the archaeological and biological evidence of how and why mummification was practiced in these cultures, plus what the examination of mummies can tell us about past peoples cultures, diseases, and lifestyles.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ANTH 160 - Reconstructing Lost Civilizations*

3 unit(s)

Explores scientific archaeology and the reconstruction of civilizations. Topics include framing hypotheses, site selection, excavation, analysis of artifacts and ecofacts, and reconstructing social systems.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ANTH 161 - Old World Civilizations*

3 unit(s)

Prehistoric cultural development in Europe, Asia, and Africa from the Paleolithic to the development of civilizations. Discussions of early states include social organization, economic systems, art, architecture and intellectual achievements.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 162 - Inca, Aztec and Maya Civilization*

3 unit(s)

Ancient high civilizations of Mexico, Central America and Andean South America, their predecessors and contemporaries. Explores sociocultural systems with emphasis on art, architecture and intellectual achievements.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 164 - North America before 1492*

3 unit(s)

Archaeology and history of North American peoples before 1492. Precolumbian culture areas and relationships between them; development of state societies; relationships with and resistance to European colonizers.

**Prerequisite(s):** Upper division standing or instructor approval

**Grading:** Graded



*ANTH 165 - Historical Archaeology*

3 unit(s)

Course centers on the archaeology of the recent past. Students explore how to employ archaeological material analysis and archival research to develop a fuller understanding of the development of the modern industrialized world.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 168 - Archaeological Methodology*

3 unit(s)

Central methods of archaeological practice. Methods of archaeological inquiry, research design, and the cultural resource management presented through case studies in historic and prehistoric archaeology.

**Prerequisite(s):** ANTH 13.

**Grading:** Graded

*ANTH 169 - Archaeological Site Excavation*

3 unit(s)

Artifact recovery and analysis during archaeological field project. All phases of professional archaeological practice leading to publication of findings. Sites may be local or distant.

*Misc/Activity: 6 hours activity*

**Prerequisite(s):** ANTH 13 or instructor consent.

**Grading:** Graded

*ANTH 173 - Multimedia Anthropology*

3 unit(s)

Planning, production, and presentation of ethnographic materials using various media. Theoretical and applied aspects of multimedia anthropology. Use of multiple media in data collection, analysis, evaluation, and representation of culture including photographs, documentary video, websites, social networking platforms, and infographics.

**Prerequisite(s):** ANTH 11 or instructor consent.

**Grading:** Graded

*ANTH 175 - Anthropology of Native America*

3 unit(s)

Anthropological survey of North American indigenous peoples and issues from historical and contemporary perspectives. Topics include cultural variation and diversity, decolonizing narratives of indigenous histories, resistance, social and environmental justice, law, and politics.

**Prerequisite(s):** Any lower division Anthropology course or Instructor Consent.

**Grading:** Graded

*ANTH 176 - Native California: Past and Present*

3 unit(s)

Native Californian cultures before and after white contact, emphasizing ecological, sociopolitical and religious interrelationships, colonialism, resistance, and struggles for tribal sovereignty. Ethnographic, archaeological and documentary sources.

**Prerequisite(s):** ANTH 11 or Instructor Consent.

**Grading:** Graded

*ANTH 177 - Anthropology of Asia*

3 unit(s)

Sociocultural themes of selected Asia cultures. Covers cultural pluralism, intercultural contact, social organization, worldview and economic adaptations. Explores connections within the Pacific Rim, especially to the local region. Course is repeatable once for credit when different cultures are emphasized.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 180 - Individual Studies*

1-4 unit(s)

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*ANTH 184 - Directed Reading*

1-4 unit(s)

Directed reading in cultural anthropology, physical anthropology or archaeology to gain a broader understanding of a particular topic, culture or theoretical issue.

**Prerequisite(s):** Upper division standing and instructor consent.

**Grading:** Credit/No Credit

*ANTH 187 - Special Topics*

3 unit(s)

Contemporary issues in anthropological theory including cultural anthropology, archaeology and physical anthropology. Course is repeatable once for credit on different issue.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ANTH 190 - Designing Research*

3 unit(s)

Describes research conception, development and implementation for academic research and applied careers alike. Emphasizes writing grant proposals, academic theses, and professional contracts. Topics include research question identification, methodological and technical approaches, broader significance and impact of research, and ethical considerations.

**Prerequisite(s):** Declared major in Anthropology or Behavioral Sciences; Completion of Area Z (100W); Two of the

following courses: ANTH 11, ANTH 12, ANTH 13 or Instructor consent.

**Grading:** Graded

*ANTH 191 - Frontiers of Anthropology*

3 unit(s)

Critical contemporary social issues that cut across archaeology and cultural and physical anthropology. Anthropology as a holistic social science. Seminar format uses reading, simulations and class discussions. Professionalism in the discipline stressed.

**Prerequisite(s):** ANTH 131 and senior standing or instructor consent.

**Grading:** Graded

*ANTH 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ANTH 193 - Behavioral Science in Practice*

3 unit(s)

Capstone workshop for behavioral science majors. Students assess methods and knowledge of anthropology, psychology and sociology, and synthesize them by reflecting upon case studies of individual, organizational, community, and global issues. Emphasis is on cooperative learning, reflection and synthesis of skills and knowledge.

**Prerequisite(s):** Senior standing, declared major in Behavioral Science or Behavioral Science double major.

**Grading:** Graded

*ANTH 195 - Anthropology Practicum*

1-6 unit(s)

Advanced practicum in archaeology, ethnography, physical anthropology or linguistics.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*ANTH 198 - Special Projects*

1-4 unit(s)

Independent research in cultural anthropology, physical anthropology or archaeology.

**Prerequisite(s):** Upper division standing and instructor consent.

**Grading:** Credit/No Credit

*ANTH 230 - Theory in Practice*

3 unit(s)

In-depth analysis of anthropological and related theory and accompanying methodology, emphasizing the use of theory in practice.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** ANTH 131 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ANTH 231 - Applications Core*

*3 unit(s)*

Methods for the analysis of sociocultural systems, ethnographic evaluation, and program/design development. Emphasis on professionalism, project management, budgeting, ethics, and contracts.

**Prerequisite(s):** ANTH 232, ANTH 105 or instructor consent.

**Grading:** Graded

*ANTH 232 - Applications Core*

*3 unit(s)*

Methods for the analysis sociocultural systems, ethnographic evaluation, and program/design development. Emphasis on professionalism, project management, budgeting, ethics, and contracts

**Prerequisite(s):** ANTH 231 or instructor consent.

**Grading:** Graded

*ANTH 233 - Fields of Application*

*3 unit(s)*

Survey of domains in which anthropological skills and knowledge are applied. Topics include health, business and industry, sustainable regions, and immigration. Emphasis is on opportunities for anthropological contributions.

**Corequisite(s):** ANTH 231 or instructor consent.

**Grading:** Graded

*ANTH 234 - Advanced Research Methods*

*3 unit(s)*

Advanced research methods including individual and group interviewing, structured observation, and formal analytical methods. Emphasis on data management, ethnographic writing, and presentation of data through different media.

**Prerequisite(s):** ANTH 149 or equivalent.

**Grading:** Graded

*ANTH 235 - Quantitative Methods*

*3 unit(s)*

Advanced quantitative methods to gain comprehension of statistical analyses, especially in regards to predictive value for regional issues. Emphasis will be on understanding statistics, creating databases, using statistical software packages, and employing proper statistics.

**Prerequisite(s):** STAT 95 or equivalent.

**Grading:** Graded

*ANTH 280 - Individual Studies*

1-4 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** Instructor consent and department chair approval.

**Grading:** Credit/No Credit

*ANTH 287 - Special Topics*

1-3 unit(s)

Contemporary issues in applied and practicing anthropology not covered in other courses. Course is repeatable once for credit on different topic with advisor consent. Repeatable for credit when topic changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

*ANTH 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ANTH 298 - Anthropology Project*

1-6 unit(s)

Course consists of supervised units applying anthropology in a project, the documentation of that project and the evaluation of the project in a written report. Course is repeatable for credit in the same semester.

**Grading:** Mandatory CR/NC/RP

*ANTH 299 - Master's Thesis*

1-6 unit(s)

Independent anthropological research conducted under supervision of faculty advisor.

**Prerequisite(s):** Graduate standing.

**Grading:** Mandatory CR/NC/RP

*ANTH 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on project or thesis.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*ORGS 101 - People & Organizations*

3 unit(s)

Study of complex organizations in which people live their lives. Topics include organizational forms and functions; internal social and cultural dynamics; growth and change in material, social and symbolic environments; and ethical issues of organizational life.

*Misc/Lab: Lecture 4 hours/Activity 2 hours*

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*ORGS 102 - Organizations, Inquiry & Analysis*

4 unit(s)

Development of skills to analyze and design organizations. Topics include analysis of environments and resources; use of technology; communication and decision-making; workflow and division of labor; and symbols. Research skills for understanding organizational values, patterns, processes and environments.

*Misc/Lab: Lecture 4 hours/Activity 2 hours*

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*ORGS 103 - Organizational Studies Capstone*

4 unit(s)

Capstone course required of all ORGS majors. Emphasizes team projects working with community or institutional partners to address issues through organizational design or change.

*Misc/Lab: Lecture 4 hours/Activity 2 hours*

**Prerequisite(s):** ORGS 101, ORGS 102; or instructor permission

**Grading:** Graded

## Department of Chicana and Chicano Studies

*Formerly Mexican American Studies*

**Office:** Clark Hall 231

**Telephone:** 408-924-5760

**Email:** mas-community-group@sjsu.edu

**Website:** www.sjsu.edu/ccs

### Professors

Magdalena Barrera, Chair

### Associate Professors

Rebeca Burciaga

Julia Curry-Rodriguez

## Assistant Professors

Estevan Azcona  
Jonathan Gomez  
Joshua Troncoso

# Overview

Created in 1969, the Department of Chicana and Chicano Studies (CCS) is the oldest graduate program in Chicana/o studies in the country and only one of five graduate programs in Chicana/o Studies programs in California today. Rooted in social justice principles, our interdisciplinary program prepares students to critically examine and address intellectual traditions and contemporary issues resulting from intersections in race, ethnicity, class, and gender in Chicana-Latinx communities. We offer an MA degree with three areas of emphasis: education, policy and comparative ethnic studies. The BA provides students an in-depth understanding of the discipline of Chicana/o Studies, as well as insights and skills to analyze and work with Chicana-Latinx communities through three areas of emphasis: Cultural & Creative Expression, Institutions & Community Engagement, and Transnationalism & Global Relations. It is designed to complement a number of majors across the university, for those who want a double major that includes CCS. We also offer a unique, interdisciplinary minor that supplements any undergraduate major by providing a well-rounded introduction to the Chicana-Latinx community, including the community's history, politics, culture and social, political and economic contexts. Our graduates become leaders in the fields of teaching, social services, policy, health care, government and community service, and pursue doctorates in Chicana/o studies, ethnic studies and other academic fields.

## Undergraduate

### Chicana and Chicano Studies, BA

The BA in Chicana and Chicano Studies at SJSU provides students an in-depth understanding of the discipline of Chicana/o Studies as well as insights and skills to analyze and work with Chicana-Latinx communities to address the issues they face. The degree encompasses three different areas of emphasis: Cultural & Creative Expression, Institutions & Community Engagement, and Transnationalism & Global Relations.

#### Summary of Degree Units

University Graduation Requirements	53
Major Requirements	40
University Electives	27
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (53 units)**

### **Core Lower Division General Education (33 units)**

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (9 units)**

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### **Physical Education (2 units)**

### **Graduation Writing Assessment Requirement (3 units)**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## **Major Requirements (40 units)**

### **Lower Division Core (4 units)**



- CCS 1 - Introduction to Chicana and Chicano Studies 3 *unit(s)*
- CCS 2 - Library Studies 1 *unit(s)*

## Upper Division Core (15 units)

- CCS 125 - Chicana/o Community Studies 3 *unit(s)*
- CCS 135 - Contemporary Chicana/o Issues 3 *unit(s)*
- CCS 150 - Research Methods 3 *unit(s)*
- CCS 151 - Theory in Chicana/o Studies 3 *unit(s)*
- CCS 152 - The Story of Chicano Spanish 3 *unit(s)*

## Additional Upper Division Courses (21 units)

*All Majors will select a specific specialization area and will take 9 units in that area and 6 units in each of the other two areas for a total of 21 units.*

## Cultural and Creative Expression

- CCS 144 - Chicana/o Literature 3 *unit(s)*
- CCS 147 - Music in Mexican America 3 *unit(s)*
- CCS 170 - Chicana/Chicano Film 3 *unit(s)*

## Institutions and Community Engagement

- CCS 115 - Chicana/o Families 3 *unit(s)*
- CCS 127 - Chicanas/os and the Criminal Justice System 3 *unit(s)*
- CCS 185 - Teaching in a Diverse Society 3 *unit(s)*

## Transnationalism and Global Relations

- CCS 105 - Chicanos: United States/Mexico Relations 3 *unit(s)*
- CCS 120 - Political Economy and Chicana/o Communities 3 *unit(s)*
- CCS 175 - Human Migrations: Global Reach 3 *unit(s)*

## University Electives (27 units)

*Students may choose 9 3-unit university or Chicana and Chicano Studies electives. Students are encouraged to enroll in a minor or second major.*

## Total Units Required (120 units)

# Master

## Chicana and Chicano Studies, MA

Created in 1969, the Department of Chicana and Chicano Studies is the oldest graduate program in Chicana/o studies in the country and only one of five programs in Chicana/o Studies in California today. Rooted in social justice principles, our interdisciplinary program prepares students to critically examine and address intellectual traditions and contemporary issues resulting from intersections in race, ethnicity, class, and gender in Chicana/Latina communities. We offer an MA degree with three areas of emphasis: education, policy, and comparative ethnic studies. Our graduates become leaders in the fields of teaching, social services, policy, health care, government, and community service and pursue doctorates in Chicana/o Studies, Ethnic Studies, and other academic fields.

## **MA - Chicana and Chicano Studies, Specialization in Comparative Ethnic Studies**

The Comparative Ethnic Studies specialization is designed to prepare students for doctoral study in Chicana/o Studies, Ethnic Studies, and other academic fields. In addition to courses in Chicana and Chicano Studies, students may take courses from other areas of Ethnic Studies, such as African American Studies and Asian American Studies, so as to develop strengths in several areas of Ethnic Studies.

## **MA - Chicana and Chicano Studies, Specialization in Education**

The Education specialization is intended to prepare students for effective work in a number of fields requiring expertise in issues relevant to Chicana and Latina education. Among the most critical areas within this emphasis are the analysis of the K-12 educational system and the development of methods for training competent professionals to work with these communities.

## **MA - Chicana and Chicano Studies, Specialization in Policy Studies**

The Policy Studies specialization is designed to provide students with a strong background in policy analysis and development as they relate to the Chicana and Latina community. The intent of this specialization is to prepare students to apply a Chicana and Latina perspective to the development and implementation of contemporary policies that address the needs of this and other communities.

Information about the program and important dates can be obtained at the department website: [sjsu.edu/ccs](http://sjsu.edu/ccs).

## **Admissions Requirements**

Candidates must meet all the university admission requirements. In addition to the regular application for admission to the university, each applicant must submit directly to the graduate advisor of the Chicana and Chicano Studies Program two letters of recommendation, a statement of purpose, and a writing sample (not to exceed 10 pages). Those students who do not meet the standards for classified status may be admitted with specific conditions as conditionally classified; the conditions must be fulfilled before the student will be advanced to candidacy for the master's degree in Chicana and Chicano Studies. If the conditions are not fulfilled, the program reserves the right to dismiss the student from the program by notifying the Associate Dean of Graduate Studies.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. Students pursuing the Plan A (Thesis) option must meet additional departmental requirements for candidacy by securing the commitment of three faculty members of the university, two of whom must be members of the program permanent faculty, to serve as members of the student's Plan A (Thesis) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis proposal no later than one month prior to the end of the semester preceding the one in which enrollment in the final thesis course (CCS 299 - Master's Thesis) is planned.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Department Graduation Requirements

At an appropriate time, and with the assistance of the graduate advisor, students will select a specialization and a culminating experience (Plan A, Plan B Project, or Plan B Applied Project) as outlined below:

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

#### Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MA - Chicana and Chicano Studies degree must successfully pass a final oral defense of the thesis. This requirement is fulfilled by enrolling in CCS 298 and CCS 299 in consecutive semesters.

#### Plan B (Project)

The project is independently conducted research under the supervision of one member of the program permanent faculty. It is typically more focused on working directly with communities than the thesis. The candidate for the MA - Chicana and Chicano Studies degree must successfully complete a final project paper approved by the project advisor. This requirement can be fulfilled by enrolling in CCS 298 for one or two semesters.

### **Plan B (Applied Project)**

The Applied Project is completed in the Capstone Seminar under the direction of the faculty and is presented to the campus community. Students choosing this option will complete other coursework instead of the CCS 298 and/or CCS 299 to meet the units required for the MA - Chicana and Chicano Studies degree.

## Masters Requirements (30 units)

### Core Courses (15 units)

- CCS 200 - Ideology and the Chicana/o Experience 3 *unit(s)* (GWAR)
- CCS 205 - Chicana/o History 3 *unit(s)*
- CCS 210 - Foundations in Chicana/o Studies 3 *unit(s)*
- CCS 225 - The Impact of American Institutions on the Chicana/o Community 3 *unit(s)*
- CCS 275 - Research Methods 3 *unit(s)*

### Area of Specialization (15 units)

#### **Complete One Area of Specialization**

#### Specialization in Comparative Ethnic Studies

#### **Complete One Option (Plan A, Plan B Project, or Plan B Applied Project)**

#### Plan A (Thesis)

- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*
- CCS 299 - Master's Thesis 3-6 *unit(s)*

#### Complete One Courses From:

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*

#### Plan B (Project)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*

## Plan B (Applied Project)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- Any one elective, CCS 200-level, nonsupervisory class or another class with advisor consent 3 *unit(s)*

## Specialization in Education

### Complete One Option (Plan A, Plan B Project, or Plan B Applied Project)

#### Plan A (Thesis)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*
- CCS 299 - Master's Thesis 3-6 *unit(s)*

#### Complete One Courses From:

- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*

#### Plan B (Project)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*

## Specialization in Policy Studies

### Complete One Option (Plan A, Plan B Project, or Plan B Applied Project)

#### Plan A (Thesis)

- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*
- CCS 299 - Master's Thesis 3-6 *unit(s)*

#### Complete One Courses From:

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*

## Plan B (Project)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- CCS 298 - Special Studies 1-6 *unit(s)*

## Plan B (Applied Project)

- CCS 215 - Chicanas/os and Education 3 *unit(s)*
- CCS 230 - Policy Analysis and the Chicana/o Community 3 *unit(s)*
- CCS 240 - Applied Chicana/o Studies Seminar 3 *unit(s)*
- CCS 252 - Comparative Ethnic Studies 3 *unit(s)*
- Any one elective, CCS 200-level, nonsupervisory class or another class with advisor consent 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Chicana and Chicano Studies Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

Complete eighteen units from:

*No more than 3 lower-division courses may be counted towards the 18 units. It is possible to complete the minor with only Upper Division courses.*

*Must complete entire CCS 10A and CCS 10B sequence to meet the American Institutions requirement.*

Substitute courses approved by the undergraduate advisor or Chair

- CCS 1 - Introduction to Chicana and Chicano Studies 3 *unit(s)*
- CCS 2 - Library Studies 1 *unit(s)*
- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)

- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)
- CCS 30 - Race and Ethnicity in Public Space 3 *unit(s)* (D1)
- CCS 74 - Public Address 3 *unit(s)* (A1)
- CCS 105 - Chicanos: United States/Mexico Relations 3 *unit(s)*
- CCS 115 - Chicana/o Families 3 *unit(s)*
- CCS 120 - Political Economy and Chicana/o Communities 3 *unit(s)*
- CCS 125 - Chicana/o Community Studies 3 *unit(s)*
- CCS 127 - Chicanas/os and the Criminal Justice System 3 *unit(s)*
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)* (S)
- CCS 135 - Contemporary Chicana/o Issues 3 *unit(s)*
- CCS 144 - Chicana/o Literature 3 *unit(s)*
- CCS 147 - Music in Mexican America 3 *unit(s)*
- CCS 150 - Research Methods 3 *unit(s)*
- CCS 151 - Theory in Chicana/o Studies 3 *unit(s)*
- CCS 152 - The Story of Chicano Spanish 3 *unit(s)*
- CCS 160 - Gender and Sexuality in the Chicana/o Community 3 *unit(s)* (S)
- CCS 170 - Chicana/Chicano Film 3 *unit(s)*
- CCS 175 - Human Migrations: Global Reach 3 *unit(s)*
- CCS 180 - Individual Studies 1-4 *unit(s)*
- CCS 185 - Teaching in a Diverse Society 3 *unit(s)*

## Total Units Required (18 units)

### *CCS 1 - Introduction to Chicana and Chicano Studies*

3 *unit(s)*

Through readings, lectures, discussions and assignments students are introduced to Chicana/o Studies. Students learn how CCS examines problems, policies, and social issues to analyze theories, problems, resistance, historical development, identity choices, social/cultural contributions, and consciousness among Chicanas and Chicanos.

**Grading:** Graded

### *CCS 2 - Library Studies*

1 *unit(s)*

An introduction to the library, its resources, and skills for students to be successful in the CCS major and at SJSU. Topics will cover developing a research topic, developing a research strategy, and finding and evaluating print and non-print sources.

**Grading:** Credit/No Credit

### *CCS 7 - Mexican Folklorico Dance*

1 *unit(s)*

Introduction to Mexican Folklorico Dance. Focus is on the development of fundamental Mexican Folk dance skills and knowledge. Review of the interrelationship of dance culture to origins, holidays, people, and historical context. Students learn danzas & Mestizo dances from various states and regions of Mexico (e.g. Veracruz Huasteca, Tamaulipas Norte) and indigenous community (e.g. Oaxaca Mixe) dance categories.

*Satisfies PE: Physical Education*

*Course may be repeated for credit for up to 4 units.*

**Grading:** Graded

*CCS 10A - Mexican Americans and the Development of U.S. History and Government*

*3 unit(s)*

The American people and institutions from various ethnic points of view. Historical similarities and differences of various groups that make up the U.S. and its historical/political institutions. From pre-Columbian times to 1865. GE Area: D2, meets additional GE Areas when taken with CCS 10B.

*Satisfies D2: Comparative Systems.*

**Grading:** Graded

**Note(s):** Must complete the entire sequence (CCS 10A and CCS 10B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*CCS 10B - Mexican Americans and the Development of U.S. History and Government*

*3 unit(s)*

The American people and institutions from various ethnic points of view. Historical similarities and differences of various groups that make up the U.S. and its historical/political institutions. From 1865 to the present. GE Area: D3, meets additional GE Areas when taken with CCS 10A.

*Satisfies D3 + US123: Social Issues and American Institutions*

**Prerequisite(s):** CCS 10A

**Grading:** Graded

**Note(s):** Must complete the entire sequence (CCS 10A and 10B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*CCS 25 - The Changing Majority: Power and Ethnicity in America*

*3 unit(s)*

Comparative and historical analysis of racial minorities. Focus on Euro American response to American Indians, Asian Americans, African Americans and Mexican Americans to provide understanding of minority experience in the U.S. as well as American culture.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*CCS 30 - Race and Ethnicity in Public Space*

*3 unit(s)*

This course focuses on race and ethnicity. Using readings, field trips, media images, and course discussion students learn about racialization in American society. We explore uses of racial and ethnic categories and their institutionalization in everyday life.

*Satisfies D1: Human Behavior*



**Grading:** Graded

*CCS 40 - The Chicano Theatre (El Teatro Chicano)*

3 unit(s)

Misc/Lab: Lecture 1 hour/activity 2 hours.

**Prerequisite(s):** ENGL 1A or instructor consent.

**Grading:** Graded

*CCS 74 - Public Address*

3 unit(s)

Techniques of effective oral communication. Principles of rhetoric through analysis and critique of contemporary issues concerning Mexican Americans.

*Satisfies A1: Oral Communication*

**Grading:** Graded

*CCS 105 - Chicanos: United States/Mexico Relations*

3 unit(s)

Exploration of U.S./Mexico relations through the Chicana/o perspective. Emphasis is on both historical and contemporary issues.

**Grading:** Graded

*CCS 115 - Chicana/o Families*

3 unit(s)

Examines Mexican and Mexican American families from the 19th to the 21st century. Special attention is given to the diversity of family structures in terms of incorporation, settlement, and socio-cultural interfacing within group and with diverse race/ethnic communities.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*CCS 120 - Political Economy and Chicana/o Communities*

3 unit(s)

Analysis of the American political and economic systems and institutions and their inter-connections from a Chicana/o perspective. Focus on the changing roles of Chicanas/os in the U.S. and global economies and political processes.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*CCS 125 - Chicana/o Community Studies*

3 unit(s)

Examination of Chicana/o community activities, including organizations and contemporary issues.

**Prerequisite(s):** Graduating Seniors and Chicana/o Majors only.  
**Grading:** Graded

*CCS 127 - Chicanas/os and the Criminal Justice System*

3 unit(s)

Crime, delinquency and the interaction between Chicano/Latino communities and the criminal justice system. The roles of government agencies, local law enforcement, the courts and corrections.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*CCS 130 - Chicanas and Chicanos in American Society*

3 unit(s)

Analysis of the Chicana/o community and its role in US society, emphasizing understanding social change. Covers critical areas of the Chicana/o experience, including: family, politics, gender and sexual orientation, education, immigration, identity, institutional racism and discrimination, class, and environmental justice.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CCS 135 - Contemporary Chicana/o Issues*

3 unit(s)

Analysis of selected issues/topics involving Chicano/Latino communities. May be repeated with different topic/issue.

**Prerequisite(s):** ENGL 1A or instructor consent.  
**Grading:** Graded

*CCS 144 - Chicana/o Literature*

3 unit(s)

An examination of selected Chicana/o literature including poetry, short stories, essays, and novels. May be repeated with different topic.

**Prerequisite(s):** ENGL 1A or instructor consent.  
**Grading:** Graded

*CCS 147 - Music in Mexican America*

3 unit(s)

Introduction to historical and stylistic musical developments in the experience of ethnic Mexicans in the U.S. The course surveys various styles and genres (such as corridos, conjunto, Tejano, Chicana/o rock and rap). No musical (performance) experience is required.

**Grading:** Graded

*CCS 150 - Research Methods*

3 unit(s)

A survey of research methods used in Chicana/o studies that address issues in Chicana/o communities.

**Prerequisite(s):** CCS 2 and CCS 151 or instructor consent. Students should have completed or be currently enrolled in 100W.

**Grading:** Graded

*CCS 151 - Theory in Chicana/o Studies*

3 unit(s)

An introduction to the theories and study of race, gender and sexuality in Chicana/o communities. Study of the various theoretical and analytical frameworks that are or have been used in the scholarly field.

**Prerequisite(s):** CCS 1 and CCS 2

**Grading:** Graded

*CCS 152 - The Story of Chicano Spanish*

3 unit(s)

Exploration of the origins, development, and use of the Spanish spoken by Mexican Americans and Chicanas/os in the United States. Examines Chicano Spanish from its roots in Colonial Mexico through its development and use in the United States since the first Spanish/Mexicans settled the American Southwest. Particular focus on the etymology of Chicano Spanish.

**Prerequisite(s):** CCS 1 and CCS 2

**Grading:** Graded

*CCS 160 - Gender and Sexuality in the Chicana/o Community*

3 unit(s)

An examination of how patriarchy, race, and class shape Chicanas in their everyday lives in American society. It explores how women resist and challenge the limitations placed on them as a result of being women and members of a racial/ethnic group.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*CCS 170 - Chicana/Chicano Film*

3 unit(s)

Analysis of how Chicana/os have been represented in mainstream and independent cinema, as well as how films

have shaped the socio-political relations between Chicanas/os and the dominant society.

**Prerequisite(s):** ENGL 1A and ENGL 2 or instructor consent.

**Grading:** Graded

*CCS 175 - Human Migrations: Global Reach*

3 unit(s)

Examines Mexican immigration to the United States within the context of global movements as both historical and contemporary phenomena. Considers social, political, cultural, and economic forces that influence immigration.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*CCS 180 - Individual Studies*

1-4 unit(s)

Individual research projects and field activities.

**Prerequisite(s):** Upper division standing and instructor consent.

**Grading:** Credit/No Credit

*CCS 185 - Teaching in a Diverse Society*

3 unit(s)

This course will provide future teachers with an understanding of the ways in which diversity in the classroom influences the learning process and how specific teaching strategies can enhance student learning.

**Grading:** Graded

*CCS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*CCS 200 - Ideology and the Chicana/o Experience*

3 unit(s)

Seminar examining the ideological and philosophical forces that shape Chicana/o experiences and identities.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CCS 205 - Chicana/o History*

3 unit(s)

Seminar exploring the historical experiences of Chicanas/os, from the indigenous past to the present. Integrates historiography, as it is grounded in an analysis of the development of and changes in the field of Chicana/o history.

**Grading:** Graded

*CCS 210 - Foundations in Chicana/o Studies*

*3 unit(s)*

An analysis of the evolution of Chicana/o thought and intellectual production and the development of the field of Chicana/o Studies. Analyzes the basic constructs and theories underlying Chicana/o Studies, from early works to the present.

**Grading:** Graded

*CCS 215 - Chicanas/os and Education*

*3 unit(s)*

Focus is on key educational issues facing Chicanas/os both historically and currently, including policy, curriculum, cultural conflict, and the different efforts to address them.

**Grading:** Graded

*CCS 225 - The Impact of American Institutions on the Chicana/o Community*

*3 unit(s)*

Seminar analyzing the impact of social, political, economic, and cultural systems on Chicana/o communities.

**Grading:** Graded

*CCS 230 - Policy Analysis and the Chicana/o Community*

*3 unit(s)*

Policy analysis focusing on a specific institution or institutions. Emphasis is on analyzing major issues and social policies that affect the Chicana/o community. Effective strategies to affect social change are examined.

**Grading:** Graded

*CCS 240 - Applied Chicana/o Studies Seminar*

*3 unit(s)*

Integrates major issues and theories from CCS core courses and applies them to current problems. Includes analyses of the latest research on: politics, economics, gender, immigration, education, community development, sexual orientation, and interethnic conflicts and collaborations.

**Prerequisite(s):** MAS core.

**Grading:** Graded

*CCS 252 - Comparative Ethnic Studies*

*3 unit(s)*

Interdisciplinary introduction to critical topics and debates in comparative ethnic studies, including race and representation, racialized and gendered labor and citizenship, indigeneity, feminism, nationalism, segregation and environmental injustices.

**Grading:** Graded

*CCS 275 - Research Methods*

*3 unit(s)*

Seminar exploring the methodological challenges posed by Chicana/o Studies. The course helps students develop skills in specific research methods of their choice as well as research proposals for the project/thesis, or other areas of post-graduate work.

**Prerequisite(s):** Core courses.

**Grading:** Graded

*CCS 298 - Special Studies*

*1-6 unit(s)*

Supervised project with advisor.

**Prerequisite(s):** Completion of core courses and written consent of the department's graduate advisor.

**Grading:** Mandatory CR/NC/RP

*CCS 299 - Master's Thesis*

*3-6 unit(s)*

Supervised thesis.

**Prerequisite(s):** Admission to candidacy for master's degree and written consent of the department's graduate advisor.

**Grading:** Mandatory CR/NC/RP

*CCS 1290R - Culminating Experience Supervision*

*1 unit(s)*

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Graduate Student, RP recorded for thesis or project courses.

**Corequisite(s):** Enrollment in no other courses, all degree requirements completed except thesis or project.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Communication Studies

**Office:** Hugh Gillis Hall 108

**Telephone:** 408-924-5360

**Email:** comm-studies@sjsu.edu

**Website:** www.sjsu.edu/comm

## **Professors**

Stephanie J. Coopman  
Deanna L. Fassett  
Ge Gao  
Rona T. Halualani  
Dennis Jaehne  
Kathleen McConnell  
Matthew Spangler  
Shawn Spano  
Anne Marie Todd, Chair  
Federico Varona  
Andrew F. Wood

## **Associate Professors**

Marquita L. Byrd  
Luis Felipe Gomez  
Tabitha Hart  
Priya Raman

## **Assistant Professors**

Kristen Cole  
Oona Hatton  
Marie Haverfield  
Nikki Yeboah

# Overview

The Department of Communication Studies prepares competent and ethical communicators for meaningful participation in diverse local and global communities. The B.A. and M.A. programs focus on four primary areas or cornerstones: democracy, diversity, technology, and globalization. Democracy affirms the balance of individual freedom and socio-political consensus shaped through dialogue, argument, and persuasion between individuals and groups. Diversity explores the variety and complexity of communication efforts to shape beliefs, values, and perceptions in different communities and cultures. Technology interrogates the implications of human communication in a mediated world. Globalization recognizes the interconnectedness, integration, fragmentation, and conflict within human societies and cultures in global contexts. Our undergraduate and graduate degree programs prepare alumni for a wide range of careers in areas such as education, sales, marketing, public relations, human resource development, law, politics, and community service.

# Honors Program

Students requesting departmental honors in Communication Studies will be evaluated against the following criteria: (1) a minimum GPA of 3.5 in all four unit upper division courses in the major (Foundations, Inquiry, Practice Courses, 101C and 199C); (2) have at least a 3.0 overall GPA; (3) satisfactorily complete one of the department's four-unit graduate seminars; and (4) participate in a public honors colloquium to present a summary of the work produced in the selected graduate seminar. Contact the Department for details.

# Undergraduate

# Communication Studies, BA

The Department of Communication Studies provides suggested programs and advice for students interested in emphasizing special areas of speech and communication, and for those wishing to combine courses in the major with relevant electives in other departments. Interdisciplinary interests are encouraged.

- Program Learning Outcomes

## Summary of Degree Units

University Graduation Requirements 47

Major Requirements 42

University Electives 31

**Total 120**

## University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major-Specific Graduation Requirements

COMM 101C is a prerequisite for COMM 198 and COMM 199C.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)



Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 unit(s) (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 unit(s) (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 unit(s) (D2)
- AAS 33B - Asian Americans in U.S. History II 3 unit(s) (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 unit(s) (M12)
- POLS 15 - Essentials of U.S. & California Government 3 unit(s) (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 unit(s) (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (42 units)

*For the BA in Communication Studies only 6 units of CR/NC coursework will be accepted.*

## Core Courses (10 units)

- COMM 101C - Junior Seminar: Theorizing Communication *4 unit(s)*
- COMM 198 - Applied Activity in Communication *1-2 unit(s)*
- COMM 199C - Senior Seminar: Synthesis & Application *4 unit(s)*

## Major Courses (32 units)

### Foundations Courses (8 units)

Complete eight units from:

- COMM 110F - Interpersonal Communication *4 unit(s)*
- COMM 117F - Understanding Play & Games *4 unit(s)*
- COMM 122F - Performance Studies *4 unit(s)*
- COMM 126F - Race and Performance *4 unit(s)*
- COMM 130F - Activism, Action, and Resistance *4 unit(s)*
- COMM 132F - Dis/Ability Communication *4 unit(s)*
- COMM 133F - Ethical Problems in Communication *4 unit(s)*
- COMM 144F - Organizational Communication *4 unit(s)*
- COMM 146F - Communication and the Environment *4 unit(s)*
- COMM 149F - Rhetoric and Public Life *4 unit(s)*
- COMM 153I - Discourse Analysis *4 unit(s)*
- COMM 160F - Language, Meaning and Culture *4 unit(s)*
- COMM 161F - Communication and Culture *4 unit(s)*
- COMM 164F - Communication and Global Organizations *4 unit(s)*
- COMM 170F - Persuasion *4 unit(s)*
- COMM 172F - Multicultural Communication in the United States *4 unit(s)*
- COMM 173F - Intercultural Communication and Global Understanding *4 unit(s)*
- COMM 175F - Nonverbal Communication *4 unit(s)*
- COMM 178F - Critical Intercultural Communication Studies *4 unit(s)*
- COMM 181F - New Media/New World *4 unit(s)*

### Inquiry Courses (8 units)

Complete eight units from:

- COMM 119I - Researching Games *4 unit(s)*
- COMM 123I - Performance of Ethnodrama *4 unit(s)*
- COMM 145I - Rhetorical and Cultural Criticism *4 unit(s)*
- COMM 150I - Inquiry in Organizational Communication *4 unit(s)*
- COMM 151I - New Media/New Methods *4 unit(s)*
- COMM 152I - Communication in World Cultures *4 unit(s)*
- COMM 154I - Ethnography for Communication Studies *4 unit(s)*
- COMM 155I - Quantitative Communication Inquiry *4 unit(s)*
- COMM 156I - Observation and Interviewing Methods *4 unit(s)*
- COMM 169I - The Media: Response and Criticism *4 unit(s)*

### Practice Courses (8 units)

Complete eight units from:

- COMM 105P - Communication, Self and Society 4 unit(s)
- COMM 111P - Interviewing 4 unit(s)
- COMM 113P - Games in Everyday Life 4 unit(s)
- COMM 114P - Business and Professional Speaking 4 unit(s)
- COMM 115P - Communication and Conflict 4 unit(s)
- COMM 116P - Mediation: Theory and Practice 4 unit(s)
- COMM 120P - Persuasive & Presentation Skills 4 unit(s)
- COMM 121P - Performance as Practice 4 unit(s)
- COMM 124P - Communication Training and Development 4 unit(s)
- COMM 125P - Ensemble Performance 4 unit(s)
- COMM 131P - New Media/You Media 4 unit(s)
- COMM 140P - Argumentation and Debate 4 unit(s)
- COMM 141P - Small Group Communication 4 unit(s)
- COMM 147P - Argumentation and Persuasion in Courts of Law 4 unit(s)
- COMM 165P - Communication and Organizational Philanthropy 4 unit(s)
- COMM 176P - Communication and Gender 4 unit(s)
- COMM 182P - Communication in the Classroom 4 unit(s) (COMM 182P strongly recommended for student who plan to pursue a teaching credential)

## Additional Major Courses (8 units)

Complete any eight units from Foundations (F) Inquiry(I) or Practice (P) courses or lower division COMM courses or SJSU studies COMM courses from list below.

*Can not take COMM 80 and COMM 91J*

*Must take COMM 168A and COMM 168B to fulfill requirement*

- COMM 80 - Communication Workshop 1 unit(s)
- COMM 91J - Judge Training 1 unit(s)
- COMM 100W - Writing Workshop: Writing for Influence 3 unit(s) (Z)
- COMM 157SL - Community Action/Community Service 3 unit(s) (S)
- COMM 168A - Global Climate Change I 6 unit(s)
- COMM 168B - Global Climate Change II 3 unit(s) (R+S+V)
- COMM 174 - Intercultural Comm & Struct Inequality 3 unit(s) (S)
- COMM 179 - Global Media and Resistance 3 unit(s) (V)
- COMM 180 - Individual Studies 1-3 unit(s)
- COMM 184 - Directed Reading 1-2 unit(s)
- COMM 191A - Activity Projects in Forensics 1-3 unit(s)
- COMM 191B - Activity Projects in Forensics 1-3 unit(s)
- COMM 191C - Activity Projects in Forensics 1-3 unit(s)
- COMM 191J - Activity Projects in Forensics 1 unit(s)
- COMM 191M - Activity Projects in Forensics 1 unit(s)

## University Electives (31 units)

A minor is encouraged but not required.

Total Units Required (120 units)

## Master

### Communication Studies, MA

The Master of Arts in Communication Studies, offered by the Department of Communication Studies, is a comprehensive 35-unit program that provides advanced study in the theoretical and ethical underpinnings of communication studies, the methodologies used in the study of communication, and practice in applying these concepts and methods in professional and scholarly contexts. It combines study in the areas of Intercultural Communication, Organizational Communication, Performance Studies, Cultural Studies, Rhetoric, Interpersonal and Small Group Communication, and Crisis and Conflict Resolution. By gaining a deeper understanding of the social process that is communication, our students prepare for professional careers in non-profit and corporate environments and for further graduate study. Many experience teaching at the college level through the Graduate Teaching Associate (GTA) program. Our alumni continue on to doctoral programs, teaching at colleges and universities, and careers in a wide range of professions in Silicon Valley and beyond.

Information about the MA, Communication Studies and important dates can be obtained on the Department of Communication Studies website: [www.sjsu.edu/comm/degrees/ma\\_comm](http://www.sjsu.edu/comm/degrees/ma_comm).

## Admissions Requirements

### University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admission requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MA in Communication Studies.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. The program does not currently require the GRE for admission.

### Admission to the Program

Minimum requirements for admission to the MA, Communication Studies are a bachelor's degree in Communication Studies or a related field, usually in the social sciences, humanities, or arts. A 3.0 grade point average (B or better) is desired. Depending on their level of preparation, applicants can be admitted in either classified or conditionally classified standing.

To apply for the MA in Communication Studies, follow the steps on this page: [www.sjsu.edu/comm/degrees/ma\\_comm/apply](http://www.sjsu.edu/comm/degrees/ma_comm/apply).

## Program Requirements for Admission to Classified Standing

Students can be admitted in either classified or conditionally classified standing. To be admitted to the Master of Arts in Communication Studies program in classified status, an applicant must have a grade point average of 3.0 or better in their last 60 units, and possess a baccalaureate degree in Communication Studies, or related field in the social sciences, humanities, or arts from an accredited U.S. or international university.

## **Program Requirements for Admission to Conditionally Classified Standing**

If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions of admission will include additional BA or MA level coursework in Communication Studies, depending on the nature of the applicant's case. The program admissions letter will explain the terms and requirements.

## **Requirements for Advancement to Graduate Candidacy**

Students must meet the university requirements for advancement to graduate candidacy. General university requirements for advancement to candidacy for the MA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. For Communication Studies, candidates meet the GWAR requirement by taking COMM 200R, a required course that most students take in their first semester.

Further requirements of the department for advancement to candidacy include completion of 18 units in the graduate program and submission of a project or thesis proposal to the department's Graduate Committee. If the proposal is satisfactory and the student is considered to be a potentially competent and mature practitioner, he or she will be advanced to candidacy. Students who fail to meet the expected standards will be terminated from the program.

## **Requirements for Graduation**

### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### **Graduation Writing Assessment Requirement**

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing COMM 200R.*

### **Culminating Experience**

Students in the MA, Communication Studies complete the program with a 6-unit Culminating Experience selected from three options: a master's thesis, graduate project, or comprehensive exam.

### **Plan A (Thesis)**

Students opting to complete a master's thesis will take 3 units of COMM 299 - Master's Thesis in two consecutive semesters for a total of 6 units. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the first COMM 299 course before enrolling in the second. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The candidate for the MA, Communication Studies degree must successfully pass a final oral defense of the thesis.

### **Plan B (Project)**

Students opting to complete a graduate project will take 3 units of COMM 298 - Master's Project in two consecutive semesters for a total of 6 units. The student is responsible for securing the commitment of a full-time tenured or tenure-track MPH faculty member who agrees to serve as a project committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's project committee. The student must write a project proposal and have it approved by the project committee before work on the project can begin. The student must successfully pass a final oral defense of the project.

### **Plan B (Comprehensive Exam)**

Students opting for the courses-only option must pass the Comprehensive Exam to earn the MA, Communication Studies degree. This option requires an additional 6 units of electives selected in consultation with the graduate advisor. The exam consists of three three-hour, closed-book essay questions: one question on communication theory, one question on communication methodology, and one question on a topic of the student's choice.

## **Master Requirements (35 units)**

### **Core Courses (19 units)**

- COMM 200R - Graduate Study in Communication *4 unit(s) (GWAR)*
- COMM 201 - Communication Methodologies *3 unit(s)*
- COMM 297 - Advanced Writing Workshop *4 unit(s) (Students take COMM 297R twice, 2 units each time.)*

### **Core Seminar (8 units)**

8 units of core seminars selected from the following list (all share the same set of six program learning objectives):

- COMM 210R - Seminar in Interpersonal Communication *4 unit(s)*
- COMM 231R - Performing Presentational Aesthetics *4 unit(s)*
- COMM 232R - Seminar in Performance and Culture *4 unit(s)*
- COMM 244R - Seminar in Organizational Communication *4 unit(s)*
- COMM 245R - Seminar in Communication Criticism *4 unit(s)*
- COMM 249R - Seminar in the Philosophy of Communication *4 unit(s)*
- COMM 250R - Seminar in Communication Theory: Critical and Interpretive *4 unit(s)*

- COMM 255R - Seminar in Communication Theory 4 unit(s)
- COMM 269R - Seminar in Contemporary Communication 4 unit(s)
- COMM 274R - Seminar in Intercultural Communication 4 unit(s)

## Electives (10 units)

10 units of 200-level courses in Communication Studies; students may take up to 6 units of 200-level courses from outside departments in consultation with graduate advisor.

## Culminating Experience (6 units)

### Complete One Option (Plan A Thesis, Plan B Project, Or Plan B Comp Exam)

#### Plan A (Thesis)

- COMM 299 - Master's Thesis 1-6 unit(s) (Students take a total of 6 units of COMM 299 in consecutive semesters.)

#### Plan B (Project)

- COMM 298 - Master's Project 1-4 unit(s) (Students take a total of 6 units of COMM 298 in consecutive semesters.)

#### Plan B (Comprehensive Exam)

*Students selecting this option complete the Comprehensive Exam in their final year and while enrolled in COMM 297.*

- Additional 6 units of electives selected in consultation with graduate advisor 6 unit(s)

## Total Units Required (35 units)

Students may take up to 6 units of graduate-level courses in programs other than Communication Studies selected in consultation with the graduate advisor and apply those units toward the MA, Communication Studies degree.

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6. Upper-division units must be linked to study abroad.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Communication in the Information Age Minor

This interdisciplinary minor Communication in the Information Age provides students the theoretical insights and practical skills necessary to thrive in the information age. The curriculum teaches the basic skills of information retrieval and evaluation; provides insight into contemporary media practices; and explores the intersection of technology, identity, and culture. Completion of this minor means that you can:

- Employ a broad range of resources and information technologies (including content development, visual design, and website construction) for the purposes of effective personal, artistic, and professional communication.
- Practice effective principles of information gathering, evaluation and synthesis while demonstrating awareness of legal, ethical, and practical issues relating to these practices.
- Develop reasoned and well articulated perspectives on contemporary questions related to rights and responsibilities in the information age, with particular awareness of issues related to equity, intellectual property, intellectual freedom, and the ethical responsibilities of media institutions.

#### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

### Minor Core (7 units)

- MCOM 72 - Mass Communication and Society 3 *unit(s)* (D3)
- COMM 181F - New Media/New World 4 *unit(s)*

### Electives (11 units)

Complete eleven units from:

- ARTH 72 - Design in Society 3 *unit(s)* (C1)
- ARTH 176A - Graphic Design History and Theory 3 *unit(s)*
- COMM 131P - New Media/You Media 4 *unit(s)*
- COMM 151I - New Media/New Methods 4 *unit(s)*
- RTVF 110 - Media and Culture 3 *unit(s)* (S)

## Total Units Required (18 units)

## Communication Studies Minor

#### **University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

Students complete 18 units in Communication Studies for the minor; at least 12 of the 18 units must be upper division.



Total Units Required (18 units)

## Community Service Learning Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (18 units)

CSL Core Courses (9 units)

*EDUC 157 can be taken under any of the following prefixes: COMM, ENGR, HA, SCI, or APSC*

- COMM 157SL - Community Action/Community Service 3 unit(s) (S)
- SOCI 80 - Social Problems 3 unit(s) (D3)

CSL Upper Division Requirements (9 units)

Nine integrated units approved by a department or college advisor, and by the AVP of Undergraduate Studies or designee. Six of these units must be in courses approved as CSL courses under university policy.

Total Units Required (18 units)

*COMM 10 - Communication and Human Relationships*

*3 unit(s)*

Course examines role of communication in developing/maintaining human relationships. Discussion focuses on relational communication processes as they occur in various settings, such as the intercultural, the family, the intimate, the organizational, the public and between/within genders.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*COMM 20 - Public Speaking*

*3 unit(s)*

Principles of rhetoric applied to oral communication; selecting, analyzing, adapting, organizing and delivering ideas effectively.

*Satisfies A1: Oral Communication*

**Grading:** Graded

*COMM 20N - Public Speaking for Nonnative Speakers*

3 unit(s)

Public speaking for the nonnative speaker. Course content identical to COMM 20 with intercultural emphasis.

*Satisfies A1: Oral Communication*

**Prerequisite(s):** English Language Learners/nonnative speakers

**Grading:** Graded

*COMM 21 - Performing Culture and Society*

3 unit(s)

Live performance used as a method for exploring human behavior as it occurs within contemporary cultures and societies. Performance assignments will draw from among the following: performance of texts, street performance, personal narrative, oral history, everyday life, and social justice.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*COMM 40 - Argumentation and Advocacy*

3 unit(s)

Principles of inquiry and advocacy in public discussion and necessary basic skills for intelligent participation in discussion and debate.

*Satisfies A1: Oral Communication*

**Grading:** Graded

*COMM 41 - Critical Decision Making*

3 unit(s)

Critical reasoning and problem solving in group discussion. Examination of the relationship between critical decision-making and group communication. Practice in-group problem solving as a means for developing critical thinking skills.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*COMM 45 - Media and Culture*

3 unit(s)

Application of critical thinking, writing, and oral communication skills in the analysis of media representations of culture. Practice in reasoning, advocating ideas, researching and evaluating arguments, developing well supported factual conclusions, and engaging in meaningful dialogue on diverse issues.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*COMM 74 - Fundamentals of Intercultural Communication*

3 unit(s)

Emphasis on direct experience and the development of skill in intercultural communication. Provides opportunity for discussion of variations within and among cultures. Encourages students to examine their own cultural heritage.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

**Note(s):** All courses with a 'Q' suffix are designated as First Year Experience courses.

*COMM 74Q - Fundamentals of Intercultural Communication*

3 unit(s)

Emphasis on direct experience and the development of skill in intercultural communication. Provides opportunity for discussion of variations within and among cultures. Encourages students to examine their own cultural heritage.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

**Note(s):** All courses with a 'Q' suffix are designated as First Year Experience courses.

*COMM 80 - Communication Workshop*

1 unit(s)

Designed to enhance students' personal and professional communication and public speaking skills. Flexible student-directed course requires completion of instructional modules and workshops.

**Grading:** Credit/No Credit

*COMM 91A - Activity Project in Forensics: Intramural Debate*

1 unit(s)

Supervised activity in the forensics program. A: Intramural competition in debate. A total of 3 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Credit/No Credit

*COMM 91B - Activity Projects in Forensics: Intramural Platform Speaking*

1 unit(s)

Supervised activity in the forensics program. B: Intramural Individual events-Platform Speaking including persuasive speaking and communication analysis. A total of 3 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*COMM 91J - Judge Training*

1 unit(s)

Community service course designed to train students to judge high school speech and debate tournaments. Students are taught the rules and given criteria for judging each event in oral interpretation of prose poetry, and drama; platform speaking; debate; and Student Congress. Students are required to write cogent ballots that help competitors.

**Grading:** Credit/No Credit

*COMM 92 - Int'l Program Studies*

1-12 unit(s)

Course may be repeated for credit for up to 12 units.

**Grading:** Mixed Grading

*COMM 100W - Writing Workshop: Writing for Influence*

3 unit(s)

Current conventions and forms of exposition, argument and persuasion. Writing for the general and specialized audience from the thesis statement approach. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Speech Communication, Communication Disorders, Speech Pathology, Business. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*COMM 101C - Junior Seminar: Theorizing Communication*

4 unit(s)

Overview of the contemporary field of communication studies based on survey of theoretical and practical responses to communication problems arising from changing social contexts. Discussion of communication literature, resources and methods of inquiry. Students will begin their major portfolios.

**Prerequisite(s):** Completion of GE oral communication and declared Communication Studies major.

**Grading:** Graded

*COMM 105P - Communication, Self and Society*

4 unit(s)

Examines the role of communication in the development of the self and the creation of social worlds. Students develop an appreciation for and practical skills in negotiating self-society tensions inherent in a diverse, global, and mediated environment.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 110F - Interpersonal Communication*

4 unit(s)

Integration of theory and practice to facilitate student understanding and skills in evaluating and participating in interpersonal relationships across contexts and the lifespan.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 111P - Interviewing*

4 unit(s)

Setting and achieving communicative goals essential in preparing for and conducting interviews. Special attention on developing effective questions and responses. Participation in a variety of interviews, including employment, appraisal, journalistic, research, survey, health care, and persuasive.

**Prerequisite(s):** Completion of the GE oral communication.

**Grading:** Graded

*COMM 113P - Games in Everyday Life*

4 unit(s)

Games serve key communicative functions in promoting fun, play, collaboration, competition, and learning. Explores games and the use of game elements across communication contexts, including interpersonal, small group, organizational/business, health, and education.

**Prerequisite(s):** Completion of GE Area A1

**Grading:** Graded

*COMM 114P - Business and Professional Speaking*

4 unit(s)

Application of current theory and research to develop communications skills within larger global and ethical issues across a range of professional and workplace contexts, including interviews, oral reports, persuasive presentations, group meetings, and mediated public speaking.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 115P - Communication and Conflict*

4 unit(s)

Focus on theories of communication as related to interpersonal and group conflict. Development of communication skills in conflict management, and applied activity in interpersonal conflict management.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 116P - Mediation: Theory and Practice*

4 unit(s)

Theoretical background and communication skills training in Mediation Practice. Basic 40 hours of training includes

readings, analysis and role plays as well as some observation.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 117F - Understanding Play & Games*

*4 unit(s)*

Examines play and games as fundamental social experiences central to developing cultural norms and structures. Explores topics such as gameplay, identity, narrative, and serious games. Special attention to communication theories that provide insight into the nature of play and games.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*COMM 119I - Researching Games*

*4 unit(s)*

Introduction to research methods commonly used to study games and human communication, such as observation, textual analysis, interviewing, and surveys. Students develop and apply analytical skills and ethical practices for understanding, conducting, and evaluating research in games and communication.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*COMM 120P - Persuasive & Presentation Skills*

*4 unit(s)*

Applies theories, concepts, and research associated with persuasive communication to develop effective presentation skills. Considers broader issues of persuasion and influence at societal and global levels, examining how those issues provide a context for everyday persuasion.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 121P - Performance as Practice*

*4 unit(s)*

Exploration of performance as a site of communication and embodied practice. Will examine the many ways in which performance exists and operates in our culture with a focus on literature, ethnographic fieldwork, personal narrative, and everyday rituals.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 122F - Performance Studies*

*4 unit(s)*

Examines the constitutive effects of performance, broadly understood, across a variety of communication contexts. Special attention paid to how performances construct experiences of culture, everyday life, ritual, political protest, social belonging, and identity.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 123I - Performance of Ethnodrama*

*4 unit(s)*

Explores how live performance can be used to create, interpret, and present arts-based scholarship. Students will read ethnodramatic texts and engage in original research, script writing, rehearsal, and performance. Emphasis is on cross-cultural performances.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 124P - Communication Training and Development*

*4 unit(s)*

Principles of designing and delivering ethical and socially responsible communication training programs including needs assessment, setting objectives, program design, selection and development of training materials, presentation skills, facilitation skills, and training evaluation.

**Prerequisite(s):** Completion of A1 Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 125P - Ensemble Performance*

*4 unit(s)*

Students collaborate to conceive, write, rehearse, and produce an ensemble project culminating in a public performance. Readings and written work focus on performance as a community-building process as well as dramaturgical research for the production.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Completion of A1 of Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 126F - Race and Performance*

*4 unit(s)*

Examination of the various ways in which racial identities are performed across a variety of communication contexts, including daily life, popular entertainment, ritualized behavior, cultural practice, and the public sphere.

**Prerequisite(s):** Completion of GE Area A1.

**Grading:** Graded

*COMM 130F - Activism, Action, and Resistance*

*4 unit(s)*

Examines national and global historical and contemporary social movements in the context of communication practices ranging from street protests to use of media and the internet. Resistance is explored using variety of theoretical and cultural perspectives.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 131P - New Media/You Media*

*4 unit(s)*

Practical application of current communication theories and research to facilitate skill development in the use and critique of new media tools, such as social networking sites, blogs, microblogs, wikis, personal webpages, video sharing sites, and similar digital communication venues.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 132F - Dis/Ability Communication*

*4 unit(s)*

Theoretical foundations in dis/ability communication facilitate student understanding of the social construct of disabilities and provide means to deconstruct communications surrounding difference.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*COMM 133F - Ethical Problems in Communication*

*4 unit(s)*

Examines current and historical theoretical approaches to ethical problems across communication contexts, including workplace, interpersonal, and mediated settings. Explores the role of cultural and societal practices in ethical communication.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 140P - Argumentation and Debate*

*4 unit(s)*

Principles of argumentation including analysis of propositions, issues, evidence and reasoning. Training and experience in debate forms.

**Prerequisite(s):** Completion of A1 of Core GE requirement or instructor consent..

**Grading:** Graded

*COMM 141P - Small Group Communication*

*4 unit(s)*

An applied approach to small groups and teamwork that links theory and practice across a variety of contexts. Emphasis on the relationships between group communication and larger cultural issues, such as diversity and democracy.

**Prerequisite(s):** Completion of GE oral communication.

**Grading:** Graded

*COMM 144F - Organizational Communication*



4 unit(s)

Application of organizational communication theories and concepts to communication processes and functions in organizational life. Examines topics such as ethics, leadership, teams, culture, networks, power, diversity, identity, and assessment of communication practices.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 145I - Rhetorical and Cultural Criticism*

4 unit(s)

Survey of leading theorists, critics and movements in the area of rhetoric and cultural studies. Examines interpretations of speech and discourse as an approach to understanding both real life issues and advanced work in communication studies.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 146F - Communication and the Environment*

4 unit(s)

Examination of communication in environmental issues, especially conflicting values and modes of discourse that assume different meanings of human-nature relationship. Emphasis on environmentalism as popular movement, rhetoric of radical ecology and the technical discourse of environmental policy administration.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 147P - Argumentation and Persuasion in Courts of Law*

4 unit(s)

Principles of legal argumentation, cross-examination, jury selection and strategy. Selected trial transcripts studied to explore differing uses of the trial forum.

**Prerequisite(s):** Completion of GE oral communication.

**Grading:** Graded

*COMM 148P - Environmental Advocacy*

4 unit(s)

Applies theories and research of message framing, social marketing and community engagement to environmental communication. Considers broader issues of persuasion and influence surrounding sustainability to develop environmental advocacy campaigns.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*COMM 149F - Rhetoric and Public Life*

4 unit(s)

Knowledge of rhetorical theory and practice as they relate to public life, democratic governance and social conflict and consensus from the classical era to contemporary times.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 150I - Inquiry in Organizational Communication*

*4 unit(s)*

Introduction to research methods commonly used in studies of organizational communication, such as focus group, interviewing, survey, ethnography, appreciative inquiry, and textual analysis.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 151I - New Media/New Methods*

*4 unit(s)*

Examines the internet and related digital communication systems as both a site of and a tool for communication research. Special attention to legal and ethical concerns associated with communication research in digital environments.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*COMM 152I - Communication in World Cultures*

*4 unit(s)*

Origins of human communication studies in early societies, including those of China, Egypt, Greece, India, Mesopotamia and Rome. Special attention to the cultural origins of classic texts and significant patterns of communication which continue to inform our contemporary experiences.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 153I - Discourse Analysis*

*4 unit(s)*

Introduction to discourse analytic approach to studying situated communication practices, including research design, data collection, data analysis, and ethical issues pertaining to conducting discourse analyses.

**Grading:** Graded

*COMM 154I - Ethnography for Communication Studies*

*4 unit(s)*

Introduction to ethnography from a communication studies perspective, i.e. ethnographic approaches to studying situated communication practices in particular cultural milieus, such as ethnography of communication, critical ethnography, digital ethnography, autoethnography, and/or other types relevant to communication studies.

**Grading:** Graded

*COMM 155I - Quantitative Communication Inquiry*

4 unit(s)

Quantitative social scientific approaches to communication facilitate students understanding of the philosophical foundations of quantitative methods and skills in hypothesis testing, research design, data collection, analysis, and interpretation. Methods to be covered include experimental design, survey research and content analysis.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 156I - Observation and Interviewing Methods*

4 unit(s)

Observation and interviewing methods, or qualitative approaches to communication, facilitate student understanding of the philosophical foundations of developing research questions, research design, data collection, analysis and interpretation. Methods covered include ethnography and participant observation, interviewing, focus groups, and action research.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 157SL - Community Action/Community Service*

3 unit(s)

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*COMM 160F - Language, Meaning and Culture*

4 unit(s)

Course addresses the question of how language, symbols and society work together. Students will learn about the nature of language and how language and symbols shape individual and collective actions.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 161F - Communication and Culture*

4 unit(s)

Human communication explored as a mechanism of control and as a vehicle of cultural change. Applies theoretical principles of communication to social issues and communication settings in different cultures.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 164F - Communication and Global Organizations*

4 unit(s)

Examines the relationships among culture, communication, technology, and ways of organizing in various types of global organizations (e.g. nongovernmental organizations, not-for-profits, corporations). Explores the unique communicative processes and ethical issues that arise in international organizing.

**Pre/Corequisite(s):** upper division standing.

**Grading:** Graded

*COMM 165P - Communication and Organizational Philanthropy*

4 unit(s)

A broad look at the history of Philanthropy, fundraising, legal and compliance issues, messaging and marketing, recruitment and managing of volunteers, technology, evaluating non-profits and philanthropy as a career choice.

**Prerequisite(s):** Completion of Area A1 of core GE or instructor consent

**Grading:** Graded

*COMM 168A - Global Climate Change I*

6 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*COMM 168B - Global Climate Change II*

3 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

*Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding*

**Prerequisite(s):** COMM 168A / ENVS 168A / GEOL 168A / HUM 168A / METR 168A ; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*COMM 169I - The Media: Response and Criticism*

4 unit(s)

Examination of media as a locus of meaning making. Critical analysis of communication practices and content in a variety of venues, such as television, film, radio, social networking, and other sites of web-based communication.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 170F - Persuasion*

4 unit(s)

Explores theories, concepts, and research associated with persuasive communication. Considers broader issues of persuasion and ethics at societal and global levels, examining how those issues provide a context for the kinds and contexts of persuasion encountered in everyday life.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 172F - Multicultural Communication in the United States*

4 unit(s)

Analysis of the communication process between and among people in a culturally diverse domestic population (United States). Topics cover speech communication principles, conflict management, language, script analysis, attitudes and values. Includes both theory and activity-based exercises.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 173F - Intercultural Communication and Global Understanding*

4 unit(s)

Analysis of communication among persons from different U.S. and world cultures. Experiences and research in intercultural communication. The influence of varying values, norms, belief structures and roles. Prejudice, ethnocentrism, nationalism and racism in communication.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*COMM 174 - Intercultural Comm & Struct Inequality*

3 unit(s)

Analysis of intercultural communication in the U.S. as it relates to social inequalities, power differences, and diversity. Examines identities and interactions between people of different racial/ethnic backgrounds. Investigates influence of sociocultural forces on intercultural communication encounters and relationships. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*COMM 175F - Nonverbal Communication*

4 unit(s)

A look at differences between and the interdependency of verbal and nonverbal messages. Students will study the role of nonverbal communication in everyday life.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*COMM 176P - Communication and Gender*

4 unit(s)

An analysis of issues and problems related to communication and gender. The course will consider theoretical and practical perspectives on male-female and same-sex interactions in a variety of situations and cultures.

**Prerequisite(s):** Completion of A1 of Core GE requirement or instructor consent.

**Grading:** Graded

*COMM 178F - Critical Intercultural Communication Studies*

4 unit(s)

An overview of the critical paradigmatic perspective in intercultural communication. Such a perspective proffers an exploration of power dimensions and macro structures that frame and shape micro-intercultural communication encounters, episodes, and contexts.

**Grading:** Graded

*COMM 179 - Global Media and Resistance*

3 unit(s)

Study of communication issues facing global resistance movements, particularly the role of new technology and social media in public dissent. Covers the application of social movements and resistance theories and concepts. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*COMM 180 - Individual Studies*

1-3 unit(s)

Supervised study in specific fields of speech not covered by offered courses.

**Prerequisite(s):** Department chair consent.

**Grading:** Credit/No Credit

*COMM 181F - New Media/New World*

4 unit(s)

Explores the impact of the internet, mobile devices, and other information and communication technologies on social interaction, self-representation, business, politics, and cultural production. Covers the application of mediated communication theories and concepts.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*COMM 182P - Communication in the Classroom*

4 unit(s)

Analysis of the classroom as a communication system. Application of communication principles to the facilitation of educational dialogue.

**Prerequisite(s):** Completion of GE oral communication.

**Grading:** Graded

*COMM 184 - Directed Reading*

1-2 unit(s)

A total of 3 units may be repeated.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Upper division or graduate standing and department chair approval.

**Grading:** Credit/No Credit

*COMM 190 - Activity Projects in Speech*

1-6 unit(s)

Supervised activity in communication studies. Application of principles and theories of communication in business, community and professional settings.

**Prerequisite(s):** Upper division or graduate standing and department chair approval.

**Grading:** Credit/No Credit

*COMM 190I - Activity Proj in Speech International*

1-6 unit(s)

Supervised activity in communication studies for international students. Application of principles and theory of communication in business, community, and professional settings with specific attention to needs of visiting international students.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Upper division or graduate standing, or department chair approval.

**Grading:** Graded

*COMM 191A - Activity Projects in Forensics*

1-3 unit(s)

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking

including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*COMM 191B - Activity Projects in Forensics*

*1-3 unit(s)*

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*COMM 191C - Activity Projects in Forensics*

*1-3 unit(s)*

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*COMM 191J - Activity Projects in Forensics*

*1 unit(s)*

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*COMM 191M - Activity Projects in Forensics*



1 unit(s)

Supervised activity in the forensics program. A: Competition in debate. B: Individual events-Platform Speaking including persuasive speaking and communication analysis. C: Individual events oral interpretation (field trips required). J: Preparation for and judging competitive speaking activities (debates, individual events in college and high school forensics tournaments, community-sponsored speech contests). M: Research and oral presentation of appellate court arguments from simulated cases before law judges or in intercollegiate tournaments. A total of 6 units applicable to the major may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*COMM 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*COMM 193 - Activity Projects in Intercultural/International Communication*

1-3 unit(s)

Supervised activity in communication studies for students participating in immersive experiences in different cultural environments. Students demonstrate proficiency in evaluating and applying core communication concepts relevant to the experience of living, studying, and/or working in a different cultural environment.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*COMM 194 - Specialized Projects for International Immersion*

1 unit(s)

Supervised activity in communication studies for students participating in immersive direct enrollment programs abroad. Students demonstrate proficiency in evaluating and applying core communication concepts relevant to the experience of living, studying, and/or working in a different cultural environment.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Credit/No Credit

*COMM 195 - Special Topics in Communication Studies*

1-3 unit(s)

Investigation of topics not included in regular departmental offerings. Topics range from corporate training to communication in health settings to teaching speech in the high school. Focus varies each semester and is announced in the schedule of classes. Course is repeatable with department chair consent no more than 3 times.

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*COMM 198 - Applied Activity in Communication*

1-2 unit(s)

Practical application of communication theory to real world settings to provide meaningful applied capstone experiences. Students demonstrate proficiency in the critical application of core communication requirements to speech acts and contexts outside the traditional classroom.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** COMM 101 or COMM 101C; upper division standing.

**Grading:** Credit/No Credit

*COMM 199C - Senior Seminar: Synthesis & Application*

4 unit(s)

Capstone overview of the contemporary field of communication studies that builds on theory, concepts, and skills learned in COMM 101C and upper-division major courses. Synthesis and application of communication literature, resources and methods of inquiry. Students complete their major portfolios.

**Prerequisite(s):** COMM 101 or COMM 101C; upper division standing

**Grading:** Graded

*COMM 200R - Graduate Study in Communication*

4 unit(s)

History of and current research in the communication field; introduction to humanistic and social science methods and computer applications; theory-building and metatheoretical issues; reviewing and critiquing studies; preparing research questions/hypotheses and prospectus.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Admission into the Graduate Program, Graduate standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*COMM 201 - Communication Methodologies*

3 unit(s)

Introduction to the methodologies and methodological considerations pertinent to the field of communication studies, including social scientific, humanist and critical approaches to quantitative, qualitative and rhetorical methods.

**Prerequisite(s):** Graduate standing or instructor consent

**Corequisite(s):** COMM 200R

**Grading:** Graded

*COMM 210R - Seminar in Interpersonal Communication*

4 unit(s)

Examination of the role of communication in creating and maintaining social relationships. Draws on interpretive, critical, and/or quantitative theories and methods for investigating relationships in different cultural contexts and across the life span.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*COMM 231R - Performing Presentational Aesthetics*

4 unit(s)

Explores the practice and theory of presentational aesthetics through performance. Students will acquire the skills of writing, adapting, directing, and presenting performances of literary texts, ethnographic interviews, and social activism. Required of graduate students who wish to do thesis performances.

**Prerequisite(s):** Graduate standing, or instructor consent.

**Grading:** Graded

*COMM 232R - Seminar in Performance and Culture*

4 unit(s)

Explores cultural identity as constructed, contested, and displayed through acts of performance such as theatre, dance, storytelling, performance art, film, literature, and everyday behavior. Focuses on performance as a site of cultural manifestation and transformation.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*COMM 240R - Seminar in Argument and Debate*

4 unit(s)

Advanced study of patterns, techniques, and theory of argumentation and advocacy as reflected in debates on significant issues in a variety of contemporary and historical settings.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*COMM 241R - Seminar in Small Group Communication*

4 unit(s)

Exploration of group process and structure. Special attention given to democratic process, effective group decision-making, team-building concerns, group leadership, the distinctive place of communication research in small group studies.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*COMM 244R - Seminar in Organizational Communication*

4 unit(s)

Examination of internal communication processes in large organizations. Emphasis on information flow, communication networks, communication relations and the design and management of communication systems. Experience in gathering and analyzing data to monitor and assess a communication system.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

**Note(s):** MBA recommended elective.

*COMM 245R - Seminar in Communication Criticism*

4 unit(s)

Theories guiding critical evaluation of messages communicated in a variety of media, from oral to digital. Emphasis on the historical, political, and social contexts where such messages are designed, transmitted, interpreted, and used.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*COMM 249R - Seminar in the Philosophy of Communication*

4 unit(s)

Study of philosophical models of communication, their foundations, insights, and implications for social practice.

**Prerequisite(s):** Graduate standing, or instructor consent.

**Grading:** Graded

*COMM 250R - Seminar in Communication Theory: Critical and Interpretive*

4 unit(s)

Major theorists and theories of communication in the rhetorical, historical, critical, empirical, and philosophical traditions.

**Prerequisite(s):** Graduate standing.

**Pre/Corequisite(s):** COMM 200R.

**Grading:** Graded

*COMM 255R - Seminar in Communication Theory*

4 unit(s)

Review and evaluation of communication theories and research, past and present. Examination of methods of theory construction and scholarly inquiry. Experience in applying theory to designing and conducting communication research.

**Prerequisite(s):** Graduate standing, or instructor consent.

**Grading:** Graded

*COMM 265 - Seminar in Crisis Communication*

3 unit(s)

Role of public communication in crisis situations; types of crisis; pre- and post-crisis planning; crisis communication management; risk communication; crisis narratives and rhetoric; ethical obligations of crisis communication; dealing with media; image restoration. Independent research project required.

**Prerequisite(s):** Classified Graduate Standing or instructor consent.

**Grading:** Graded

*COMM 269R - Seminar in Contemporary Communication*

4 unit(s)

Advanced analysis of recent developments and trends in communication. Topics include globalization, symbolic

power and creativity, media and information technology, and formation of cultural styles and identities.

**Prerequisite(s):** Admission into the Graduate Program, Graduate standing.

**Grading:** Graded

*COMM 274R - Seminar in Intercultural Communication*

*4 unit(s)*

Advanced study of the theories, perspectives, and processes that affect intercultural communication among diverse cultural groups in the world.

**Prerequisite(s):** Graduate standing.

**Pre/Corequisite(s):** COMM 200R.

**Grading:** Graded

*COMM 280 - Independent Study*

*1-4 unit(s)*

Supervised and specialized study in specific fields of communication not covered by offered courses or that extends beyond what can be covered in an offered course.

*Course is repeatable for up to 4 units.*

**Prerequisite(s):** Department Chair consent.

**Grading:** Mandatory CR/NC/RP

*COMM 282R - Seminar in Communication Pedagogy*

*4 unit(s)*

Investigation and analysis of the intersections of communication and instruction, including communication education, instructional communication, and critical communication pedagogy.

**Prerequisite(s):** Graduate standing, or instructor consent.

**Grading:** Graded

*COMM 285A - Teaching Associate Practicum I*

*2 unit(s)*

Instruction and supervised experience in teaching university level courses in Communication Studies. Topics include curriculum design, instructional objectives and activities and assessment.

**Prerequisite(s):** Appointment as Departmental Teaching Associate, or instructor consent.

**Grading:** Credit/No Credit

*COMM 285B - Teaching Associate Practicum II*

*1-3 unit(s)*

Instruction and supervised experience in teaching university level courses in Communication Studies. In addition to advanced discussion of topics from 285A, topics will include theories of teaching and learning, identity, culture and power.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Appointment as Departmental Teaching Associate and COMM 285A, or instructor consent.  
**Grading:** Credit/No Credit

*COMM 290 - Thesis and project supervision*

1 unit(s)

Continued work on thesis or project.

**Prerequisite(s):** Outstanding RP grade in a preceding semester on a thesis or project.

**Grading:** CR/NC/RP

*COMM 291 - Communication Studies Graduate Internship Program*

1-4 unit(s)

Practical application of communication theory and research methods to real world settings to provide applied capstone experiences. Students demonstrate proficiency in the critical application of core communication requirements to speech acts in engaged and applied settings outside the traditional classroom.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Graduate Standing, Permission of Director

**Grading:** Credit/No Credit

*COMM 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*COMM 295R - Special Topics in Communication*

4 unit(s)

Advanced consideration of selected topics in communication research and theory with emphasis on current literature. The topic will vary from term to term. Course may be repeated with instructor and advisor consent.

**Grading:** Graded

*COMM 297 - Advanced Writing Workshop*

4 unit(s)

Advanced course in writing and presentation skills. Course learning goals will focus on grammar, syntax, and argumentation in written work; as well as oral performance.

**Pre/Corequisite(s):** COMM 200R.

**Grading:** Graded

*COMM 298 - Master's Project*

1-4 unit(s)

Supervised project work in the field of Communication Studies.

**Prerequisite(s):** Admission to candidacy for the master's degree, completion of core requirements and instructor

consent.

**Grading:** Mandatory CR/NC/RP

*COMM 299 - Master's Thesis*

*1-6 unit(s)*

Supervised thesis work in the field of Communication Studies.

**Prerequisite(s):** Admission to candidacy for the master's degree, completion of core requirements and instructor consent.

**Grading:** Mandatory CR/NC/RP

*SPED 184Y - Student Teaching II - Classroom Teaching*

*4-6 unit(s)*

Minimum 80-120 class periods of classroom, teaching laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities/seminar.

**Prerequisite(s):** Joint approval of major and Education departments.

**Grading:** Credit/No Credit

*SPED 184Z - Student Teaching III - Classroom Teaching*

*4-6 unit(s)*

See SPED 184Y for course description.

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*SPED 242C - Educational Internship in Teaching*

*4-6 unit(s)*

Designed to provide opportunity for supervised teaching on either the elementary or secondary school level on the basis of a special provisional credential.

**Prerequisite(s):** Matriculation as a Graduate student

**Grading:** Credit/No Credit

## Department of Economics

**Office:** Dudley Moorhead Hall 147

**Telephone:** 408-924-5400

**Email:** economics@sjsu.edu

**Website:** www.sjsu.edu/economics

### Professors

Colleen Haight  
 Matthew Holian, Chair  
 Jeffrey Hummel  
 Tom S. Means  
 J. Michael Pogodzinski

### **Associate Professors**

Rui Liu

### **Assistant Professors**

Aidin Hajikhameneh  
 Paul-Vincent Lombardi  
 Justin Rietz

## **Overview**

Economics stresses the role of markets and institutions on business, political and socioeconomic outcomes. By emphasizing applied economics, the program encourages majors to hone their strategic thinking skills, learn to anticipate the unintended consequences of actions, and engage in consequential thinking about changes over time. By stressing oral and written communication and statistical analysis, the program encourages majors to acquire the skills necessary to communicate ideas. Economics graduates use economic tools to evaluate and pose reasoned solutions to multi-faceted, complex problems, as a result, they are in high demand in any field where decision making and reasoning are emphasized. Our bachelor's degree is an excellent springboard to an MBA or law degree. Our master's program prepares graduates for research and policy positions in government and business. Although we emphasize applied economics, we also provide students with the rigorous preparation necessary to pursue doctorates in economics.

## **Honors Program**

To graduate with Economics Department honors student must have an overall GPA of 3.2; a GPA of 3.5 for all upper division economics courses. For more information, and to apply for honors, please consult the Economics Department website.

## **Undergraduate**

### **Economics, BA**

A general and flexible program, offered by the Department of Economics, to allow for a variety of student objectives.

- Program Learning Outcomes

#### **Summary of Degree Units**

University Graduation Requirements 44

Major Preparation 6



Major Core Requirements	28
Upper Division Economics Electives	24
University Electives	18
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses required in the major (Core, Area Courses, and major electives) must be completed with a minimum grade of "C-". The following courses in Preparation for the Major must be completed with a "C" or better: MATH 30 (or MATH 30X or MATH 71 or MATH 71X) and a Statistics course.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 *unit(s)* (C1+C2)
- AMS 1B - American Cultures 1877 to present 6 *unit(s)* (C2+D3+US123)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6 units)

*The following courses in Preparation for the Major must be completed with a grade of "C" or better:*

- Any Statistics course 3 *unit(s)* (including BUS2 90, SOCI 15, SOCS 15, STAT 95)
- MATH 71 - Calculus for Business and Aviation 3 *unit(s)* (B4)  
*MATH 71X may be used instead of MATH 71. MATH 30, 30P, 30PL, or 30X also accepted.*

## Major Requirements (52 units)

### Core Courses (28 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 *unit(s)*
- ECON 1B - Principles of Economics: Microeconomics 4 *unit(s)* (D1)
- ECON 100W - Writing Workshop: Economic Reports 4 *unit(s)* (Z)
- ECON 101 - Microeconomic Analysis 4 *unit(s)*
- ECON 102 - Macroeconomic Analysis 4 *unit(s)*
- ECON 103A - Introduction to Econometrics and Research Methods 4 *unit(s)*

### Complete one course (4 units):

- ECON 190 - History of Economic Thought 4 *unit(s)*
- ECON 191 - Economic Thought of Nobel Prize Winners 4 *unit(s)*

## Upper Division Economics Electives (24 units)

Select any 100-level courses within the Department of Economics with the exception of ECON 109, which is NOT intended for majors.

## University Electives (18 units)

A minor in a field recommended by the advisor is encouraged.

## Total Units Required (120 units)

### Economics, BS

A general and flexible program, offered by the Department of Economics, to allow for a variety of student objectives.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	6
Major Core Requirements	32
Upper Division Economics Electives	20
University Electives	18
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major-Specific Graduation Requirements

All courses required in the major (Core, Area Courses, and major electives) must be completed with a minimum grade of "C-". The following courses in Preparation for the Major must be completed with a "C" or better: MATH 30 (or MATH 30X) and a Statistics course.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (C1+C2)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (C2+D3+US123)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6 units)

*The following courses in Preparation for the Major must be completed with a grade of "C" or better.*

- Any Statistics course 3 unit(s) (including BUS2 90, SOCI 15, SOCS 15, STAT 95)
- MATH 30 - Calculus I 3 unit(s) (B4)  
*MATH 30X may be used instead of MATH 30. MATH 30P or 30PL also accepted.*

## Major Requirements (52 units)

### Core Courses (32 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)
- ECON 100W - Writing Workshop: Economic Reports 4 unit(s) (Z)
- ECON 101 - Microeconomic Analysis 4 unit(s)
- ECON 102 - Macroeconomic Analysis 4 unit(s)
- ECON 103A - Introduction to Econometrics and Research Methods 4 unit(s)
- ECON 103B - Econometric Methods 4 unit(s)

- ECON 104 - Mathematical Methods for Economics *4 unit(s)*

## Upper Division Economics Electives (20 units)

Select any 100-level courses within the Department of Economics with the exception of ECON 109, which is NOT intended for majors.

## University Electives (18 units)

A minor in a field recommended by the advisor is encouraged.

## Total Units Required (120 units)

# Master

## Economics, Applied Economics Concentration, MA

# Requirements for Admission with Classified Standing

Applicants must first meet the requirements for admission to the university. Additionally, applicants should possess an undergraduate grade point average of "B" or better. Bachelor's degrees in fields other than economics are acceptable and welcomed. Admission to the program with classified standing, however, requires preparation in Intermediate Microeconomic and Intermediate Macroeconomic theory, one other upper-division economics course, statistics, and proficiency in linear algebra and calculus. This coursework must be satisfactory (grades of "B" or better).

# Requirements for Admission with Conditionally Classified Standing

Applicants who do not meet the Department's requirements for admission with classified standing may be admitted into the program with conditionally classified standing if he or she has demonstrated an interest in and an ability to master economic analysis. Conditional standing requires students to complete specific courses to correct the deficiencies as listed by the graduate advisor on the admission notification. Prerequisites can be completed at SJSU, but must be taken before commencing graduate-level classes. Upon completing these requirements the student must then petition for a change in status to classified standing.

# Requirements for Admission to Candidacy for the MA - Economics

To be admitted to candidacy for the Master of Arts degree, a student must first meet the university requirements for the degree as stated in the Academic Regulations section of this catalog. Also, a candidate:

1. Must have at least a 3.0 ("B") average in nine semester hours of approved San José State University courses in economics at the 100- or 200-level.
2. Must obtain approval of a formal master's degree program from the departmental graduate advisor and from the University Graduate Committee.
3. Must have successfully completed the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students complete the GWAR as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Graduate Theory Grade Requirement

All master's degree students must complete a microeconomic theory course (ECON 201) and macroeconomic theory or monetary theory course (ECON 202 or ECON 235, if required) with a grade of "B" or better. All 100 - level courses must be completed with a "B" or better. Students must file for candidacy before taking the comprehensive examination. Policies concerning Probation and Disqualification are available online and in the Economics Office.

## Undergraduate Course Grade Requirement

Master's degree students may count a limited number of 100-level undergraduate courses as approved electives; however, these courses must be completed with a grade of "B" or better and must be approved in advance by a department graduate advisor. Students earning less than a "B" in any of these classes are allowed one attempt to retake and achieve the minimum grade. Policies concerning Probation and Disqualification are available online and in the Department of Economics Office.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program. At an appropriate time, and with the assistance of the graduate advisor, the student chooses a proposed Master's degree program and Plan A or Plan B culminating experience as outlined below.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing ECON 205.*

# Culminating Experience

## Plan B (Comprehensive Examination)

Most students complete a final written comprehensive examination. The exam covers three subjects: microeconomic theory, macroeconomic/monetary theory or Econometrics, and applied economics. Students register once for one unit of ECON 298E in the semester they plan to take the examination. Students not passing the exam may take it a total of three times. Policies concerning Probation and Disqualification for failure to complete the exam are available online and in the Economics Office.

## Masters Requirements (32-33 units)

### Core Courses (16 units)

- ECON 104 - Mathematical Methods for Economics *4 unit(s)*
- ECON 201 - Seminar in Microeconomic Analysis *3 unit(s)*
- ECON 203A - Economic Research Methods *3 unit(s)*
- ECON 205 - Workshop in Policy Analysis *3 unit(s)* (GWAR)

### Complete One Course From:

- ECON 202 - Seminar in Macroeconomic Analysis *3 unit(s)*
- ECON 235 - Seminar in Monetary Theory and Policy *3 unit(s)*

### Concentration Requirements (9-10 units)

- ECON 203B - Seminar in Econometric Methods *3 unit(s)*

### Complete Two Courses From:

- ECON 138 - Business and Economic Forecasting *4 unit(s)*
- ECON 232 - Seminar in Public Finance *3 unit(s)*
- ECON 241 - Seminar in Law and Economics *3 unit(s)*
- ECON 251 - Seminar in Labor Economics *3 unit(s)*

### Electives (6 units)

- Approved 100- or 200-level courses

### Culminating Experience (1 unit)

- ECON 298E - Special Study Comprehensive Exam *1 unit(s)*

## Total Units Required (32-33 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## **Economics, MA**

# **Requirements for Admission with Classified Standing**

Applicants must first meet the requirements for admission to the university. Additionally, applicants should possess an undergraduate grade point average of "B" or better. Bachelor's degrees in fields other than economics are acceptable and welcomed. Admission to the program with classified standing, however, requires preparation in Intermediate Microeconomic and Intermediate Macroeconomic theory, one other upper-division economics course, statistics, and proficiency in linear algebra and calculus. This coursework must be satisfactory (grades of "B" or better).

# **Requirements for Admission with Conditionally Classified Standing**

Applicants who do not meet the Department's requirements for admission with classified standing may be admitted into the program with conditionally classified standing if he or she has demonstrated an interest in and an ability to master economic analysis. Conditional standing requires students to complete specific courses to correct the deficiencies as listed by the graduate advisor on the admission notification. Prerequisites can be completed at SJSU, but must be taken before commencing graduate-level classes. Upon completing these requirements the student must then petition for a change in status to classified standing.

# **Requirements for Admission to Candidacy for the MA - Economics**

To be admitted to candidacy for the Master of Arts degree, a student must first meet the university requirements for the degree as stated in the Academic Regulations section of this catalog. Also, a candidate:

1. Must have at least a 3.0 ("B") average in nine semester hours of approved San José State University courses in economics at the 100- or 200-level.
2. Must obtain approval of a formal master's degree program from the departmental graduate advisor and from the University Graduate Committee.
3. Must have successfully completed the Graduation Writing Assessment Requirement (GWAR). The University requires that all graduate students complete the GWAR as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).



## Graduate Theory Grade Requirement

All master's degree students must complete a microeconomic theory course (ECON 201) and macroeconomic theory or monetary theory course (ECON 202 or ECON 235, if required) with a grade of "B" or better. All 100 - level courses must be completed with a "B" or better. Students must file for candidacy before taking the comprehensive examination. Policies concerning Probation and Disqualification are available online and in the Economics Office.

## Undergraduate Course Grade Requirement

Master's degree students may count a limited number of 100-level undergraduate courses as approved electives; however, these courses must be completed with a grade of "B" or better and must be approved in advance by a department graduate advisor. Students earning less than a "B" in any of these classes are allowed one attempt to retake and achieve the minimum grade. Policies concerning Probation and Disqualification are available online and in the Department of Economics Office.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program. At an appropriate time, and with the assistance of the graduate advisor, the student chooses a proposed Master's degree program and Plan A or Plan B culminating experience as outlined below.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing ECON 205.*

### Culminating Experience

#### Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. It is the candidate's responsibility to find an Economics Faculty member to Chair the thesis committee, and work with the Chair to determine the other members of the committee and the thesis topic.

#### Plan B (Comprehensive Examination)

Most students complete a final written examination, not a thesis. The comprehensive exam covers three subjects: microeconomic theory, macroeconomic/monetary theory or Econometrics, and applied economics. Students register once, for one unit of ECON 298E in the semester they plan to take the examination. Students can take the exam a total of three times. Policies concerning Probation and Disqualification for failure to complete the exam are available online and in the Economics Office.

## Masters Requirements (32 units)

### Core Courses (16 units)

- ECON 104 - Mathematical Methods for Economics *4 unit(s)*
- ECON 201 - Seminar in Microeconomic Analysis *3 unit(s)*
- ECON 203A - Economic Research Methods *3 unit(s)*
- ECON 205 - Workshop in Policy Analysis *3 unit(s)* (GWAR)

### Complete One Course From:

- ECON 202 - Seminar in Macroeconomic Analysis *3 unit(s)*
- ECON 235 - Seminar in Monetary Theory and Policy *3 unit(s)*

### Electives (12 units)

- Approved 100- or 200-level courses

### Culminating Experience (4 units)

#### Plan A (Thesis)

- ECON 299 - Master's Thesis or Project *1-6 unit(s)*

#### Plan B (Comprehensive Exam)

- ECON 298E - Special Study Comprehensive Exam *1 unit(s)*
- One additional Economics elective *3 unit(s)*

### Total Units Required (32 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

# Economics Minor

## University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (20 units)

### Lower Division Courses (8 units)

- ECON 1A - Principles of Economics: Macroeconomics 4 unit(s)
- ECON 1B - Principles of Economics: Microeconomics 4 unit(s) (D1)

### Upper Division Courses (12 units)

The department recommends that 12 units of upper division in the minor be taken in residence.

## Total Units Required (20 units)

### *ECON 1A - Principles of Economics: Macroeconomics*

4 unit(s)

Determination of economic aggregates such as total output, total employment, the price level and the rate of economic growth.

**Grading:** Graded

**Note(s):** May be taken concurrently or prior to ECON 1B.

### *ECON 1B - Principles of Economics: Microeconomics*

4 unit(s)

Allocation of resources and distribution of income as affected by the workings of the price system and by government policies.

*Satisfies D1: Human Behavior*

**Grading:** Graded

**Note(s):** May be taken concurrently or prior to ECON 1A.

### *ECON 2A - Principles of Macroeconomics Online Lab*

1 unit(s)

Self-paced, online lab guides students through practice and ["Graded"] problem sets of key macroeconomics tools and concepts.

**Grading:** Credit/No Credit

*ECON 2B - Principles of Microeconomics Online Lab*

1 unit(s)

Self-paced on line lab guides students through practice and ["Graded"] problem sets of key microeconomics tools and concepts.

**Grading:** Credit/No Credit

*ECON 2C - Statistics Lab*

1 unit(s)

This 1 unit, credit/no credit statistics lab is designed for transfer students who have taken a 3 semester-unit elementary statistics course. (SJSU Economics Department requires 4 semester units of introductory statistics. Transfer students who are economics majors and minors must make-up the missing unit.) The lab also is useful for those who have taken an elementary statistics course and are in need of a refresher. Basic statistical concepts and methods that emphasize understanding the principles of data collection and analysis rather than theory. Discussions of how statistics is commonly used in the real world.

**Grading:** Credit/No Credit

*ECON 3 - Economic Statistics*

4 unit(s)

Elementary statistical analysis of economic data, probability theory, probability distributions, sampling, sampling distributions, estimation, hypothesis testing, simple linear regression, correlation and index numbers.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ECON 1A, and ECON 1B

**Grading:** Graded

*ECON 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*ECON 100W - Writing Workshop: Economic Reports*

4 unit(s)

Writing skills appropriate to majors in economics of lucid expression in essays, reports and other types of communication. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*ECON 101 - Microeconomic Analysis*

4 unit(s)

Consumer behavior determining demands for goods and services. Theory of the firm including theories of production and cost. Theory of distribution to production factors.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 102 - Macroeconomic Analysis*

4 unit(s)

Theory of aggregate demand and related topics: national income accounting, employment and inflation, monetary and fiscal policies, economic stability, growth and balance of payments equilibrium.

**Prerequisite(s):** ECON 1A.

**Grading:** Graded

*ECON 103 - Intro to Econometrics*

4 unit(s)

Use of econometric methods in analyzing economic data. Simple and multiple regression. Problems of autocorrelation multicollinearity and heteroskedasticity.

*Misc/Lab: Lecture 3 hours/lab 2 hours*

**Prerequisite(s):** ECON 3 or equivalent.

**Grading:** Graded

*ECON 103A - Introduction to Econometrics and Research Methods*

4 unit(s)

Research methods and core econometric techniques for analysis of causal effects, from difference-in-means tests of experimental data through multiple regression analysis of observational data. Topics include selecting an appropriate research question, reviewing the relevant literature, and obtaining data. Core econometric techniques used to analyze data in an original term paper.

**Prerequisite(s):** ECON 101 and introductory statistics (SOCl 15, STAT 95, UNVS 15S or equivalent).

**Grading:** Graded

*ECON 103B - Econometric Methods*

4 unit(s)

Continuation of the econometric techniques and research methods introduced in ECON 103A. Econometric techniques for panel data, instrumental variables, regression discontinuity and difference-in-difference designs, and an introduction to time series topics. Term paper building on research projects completed in ECON 103A required.

**Prerequisite(s):** ECON 100W and ECON 103A.

**Grading:** Graded

*ECON 104 - Mathematical Methods for Economics*

4 unit(s)

Applications of linear algebra and differential calculus to economic analysis. Topics include market equilibrium,

properties of production functions, multipliers, optimization methods, comparative statics analysis.

**Prerequisite(s):** ECON 1A, ECON 1B, and MATH 30 or MATH 30X or MATH 71 or MATH 71X.

**Grading:** Graded

*ECON 106 - Managerial Economics*

4 unit(s)

Applications of economic analysis to practical problems in the private and public sector. Demand and cost analysis, market structure, statistical estimation and forecasting; case studies.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 107 - Introduction to Environmental Economics and Policy*

3 unit(s)

Analysis of basic economic and political factors related to the environmental crisis. Surveys policy approaches to the problem: regulation, taxes, subsidies, cost benefit analysis.

**Prerequisite(s):** ECON 1B or instructor consent.

**Grading:** Graded

*ECON 108 - Cost-Benefit Analysis*

4 unit(s)

Theory and practice of cost-benefit analysis applied to various topics including public projects and environment. Welfare foundations of CBA, valuation of goods (such as clean air, wilderness, and sports arenas), discounting future values and cost.

**Prerequisite(s):** ECON 1B and ECON 3 or STAT 95, or instructor consent

**Grading:** Graded

*ECON 109 - Analysis of Economic Issues for Teachers*

3 unit(s)

Economic analysis of such topics as unemployment, inflation, poverty, pollution, education and international trade will be covered within the context of K-12 education.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Not acceptable for Economics majors, except double majors; acceptable for Economics minors.

*ECON 112 - Economic Development*

4 unit(s)

Theories of development and underdevelopment. Problems of initiating and sustaining growth. Relations between developed and underdeveloped regions. Economic reform and change in the underdeveloped world.

**Prerequisite(s):** ECON 1A and ECON 1B.

**Grading:** Graded

*ECON 113A - Economic History of the United States*

4 unit(s)

Economic analysis of U.S. and Canadian history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ECON 113B - Economic History of Europe*

4 unit(s)

Economic analysis of European history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ECON 121 - Industrial Organization*

4 unit(s)

Microeconomic theory applied to pricing of products by seller having different market structures such as competition, imperfect competition, monopoly, public utility regulation or government pricing.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 132 - Public Finance*

4 unit(s)

Microeconomics of the public sector. Role of government in market systems. Cost-benefit analysis, public choice theory, taxation, fiscal federalism. State and local government sector.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 133 - Public Choice*

4 unit(s)

Economic analysis applied to non-market decision making. Topics may include: voting, special interests, rent-seeking, legislative decision-making, bureaucracy, collective action problems, judicial decision-making, political business cycles, and comparative political institutions.

**Prerequisite(s):** ECON 1B

**Grading:** Graded

*ECON 135 - Money and Banking*

4 unit(s)

Monetary institutions and theory, central banking, Federal Reserve System, interest rates, foreign exchange, price level theory, flow of funds, policy relative to private, government and international finance.

**Prerequisite(s):** ECON 1A.

**Grading:** Graded

*ECON 136 - International Economics*

*4 unit(s)*

International trade theory, customs union, tariffs, quota policies. International monetary system balance of payments problems, foreign exchange markets.

**Prerequisite(s):** ECON 1A and ECON 1B.

**Grading:** Graded

*ECON 137A - Fundamentals of Corporate Finance*

*4 unit(s)*

Net present value criterion for investment and financial decisions, portfolio analysis, capital assets pricing model, information efficiency of security markets, influence of dividend policy on stock prices and optimality of financial structure of corporations.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 137B - Topics in Corporate Finance*

*4 unit(s)*

Analytical coverage of topics such as role of leverage, valuation of options (warrants, puts, calls and convertibles), valuation of risky debt, capital budgeting, mergers, financial planning and international aspects of corporate finance.

**Prerequisite(s):** ECON 137A or instructor consent.

**Grading:** Graded

*ECON 138 - Business and Economic Forecasting*

*4 unit(s)*

Use of regression techniques to forecast movements in economic conditions having effects on business firms and governments.

**Prerequisite(s):** ECON 1A, ECON 1B and a semester of statistics.

**Grading:** Graded

*ECON 139 - Principles of Investments*

*4 unit(s)*

Stocks, bonds, money market instruments, options, futures and real estate. Institutions, markets and theory. Speculation, present value theory, yields, term structure, taxes, portfolios and insurance.

**Prerequisite(s):** ECON 1A and ECON 1B.

**Grading:** Graded

*ECON 141 - Law and Economics*



4 unit(s)

Effects on resource use of existing and proposed laws concerning contracts, tort liability, crime, water resources, antitrust, real property, the environment and corporations.

**Prerequisite(s):** STAT 95 or ECON 3, and any 100W.

**Grading:** Graded

*ECON 151 - Labor Economics*

4 unit(s)

Development of labor institutions and markets, public regulation of unions, economics of collective bargaining. Theories of wages, employment and labor income.

**Prerequisite(s):** ECON 1A or ECON 1B, ECON 3 or equivalent, ECON 100W.

**Grading:** Graded

*ECON 155 - Principles of Austrian Economics*

4 unit(s)

Examines the discipline of Austrian economics and differentiates from other economic disciplines. Uses the Austrian approach to analyze and understand the consequences of various policy prescriptions.

**Prerequisite(s):** ECON 1A and ECON 1B

**Grading:** Graded

*ECON 158 - Economics of Entrepreneurship*

4 unit(s)

Examines how economists have approached the phenomenon of entrepreneurship, from its behavioral foundations to its effects on economic growth and progress. Explores the role of entrepreneurship in theory and policy, and emphasizes its cultural, legal, and political determinants.

**Prerequisite(s):** ECON 1A and ECON 1B.

**Grading:** Graded

*ECON 160 - Public Regulation of Business*

4 unit(s)

Economic criteria of public regulation and control of private business with emphasis on the problems of public policy.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

**Note(s):** Offered summer and winter sessions and occasionally during the academic year.

*ECON 165 - Regional Economics*

4 unit(s)

The economic structure of a region, including the economic base and its relation to industries serving the local market, the relationships among the subregions and the location of industry.

**Prerequisite(s):** ECON 1A or ECON 1B or instructor consent.

**Grading:** Graded

*ECON 166 - Urban Economics*

4 unit(s)

Analysis of major economic problems of metropolitan areas: taxation, financing of urban services, transportation, residential and industrial development, local growth controls, zoning and housing.

**Prerequisite(s):** ECON 1B.

**Grading:** Graded

*ECON 170 - Health Economics*

4 unit(s)

Introduction to the application of economics to healthcare and medical care issues including demand and supply of healthcare, health insurance, health quality and safety, and the role of regulations within a healthcare system.

**Prerequisite(s):** ECON 1A and ECON 1B

**Grading:** Graded

*ECON 180 - Individual Studies*

1-4 unit(s)

**Prerequisite(s):** Instructor consent and department chair approval.

**Grading:** Credit/No Credit

*ECON 185 - Applied Economics Internship*

3 unit(s)

Supervised work with a private or public employer. Provides opportunity to gain experience in applied economics or in a discipline closely related to economics.

**Prerequisite(s):** Junior or senior standing and consent of internship coordinator.

**Grading:** Credit/No Credit

*ECON 190 - History of Economic Thought*

4 unit(s)

Course includes Ancient Greek thought; the School of Salamanca; mercantilism; Adam Smith and classical political economy; the pre-Marxian socialists and Karl Marx; the marginalist revolution and the development of neoclassical economics; and monetary theory from David Hume to Keynes.

**Prerequisite(s):** Sophomore or upper division standing and ECON 100W. Or Graduate/PBAC level.

**Grading:** Graded

*ECON 191 - Economic Thought of Nobel Prize Winners*

4 unit(s)

Exploration of lectures and essays related to economics Nobel Prize Winners since 1969. Topics include market theory, information theory, game theory, macroeconomic models, and new developments. Students submit weekly questions, three papers, and a presentation on a Nobel Prize winner.

**Prerequisite(s):** ECON 1A, ECON 1B, any 100W.  
**Grading:** Graded

*ECON 192 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*ECON 193 - New Institutional Economics*

4 unit(s)  
Introduces recent approaches to the study of institutions in economics and other social sciences. Examines how formal and informal institutions, including laws, contracts, norms and conventions, affect economic and political outcomes from a global perspective.

**Prerequisite(s):** ECON 1B  
**Grading:** Graded

**Note(s):** Offered summer and winter sessions and occasionally during the academic year.

*ECON 195 - Computational Methods for Economics*

4 unit(s)  
Covers the use of software which has the greatest applicability in economics and related social sciences; i.e., spreadsheets, databases, and programs for statistical analysis of data and numerical computation. Examples of software programs that may be covered include Excel, Gretl, Matlab/Octave, Netlogo, R, and STATA.

**Prerequisite(s):** ECON 1A, ECON 1B and a semester of statistics.  
**Grading:** Graded

*ECON 197 - Experimental Economics*

4 unit(s)  
Experimental Economics uses computerized laboratory experiments, field experiments, and quasi-natural experiments to test economic theory and human behavior. The course covers game theory, markets and auctions, experimental methodology and design, and field experiments.

**Prerequisite(s):** ECON 103A or consent of instructor.  
**Grading:** Graded

*ECON 201 - Seminar in Microeconomic Analysis*

3 unit(s)  
Advanced analysis of costs, pricing, revenue, market structures, economic efficiency, rates of wages, rent, interest, profits and allocation of resources; analytical models and economic equilibrium.

**Prerequisite(s):** ECON 101 and ECON 104.  
**Grading:** Graded

*ECON 202 - Seminar in Macroeconomic Analysis*

3 unit(s)

Aggregate analyses of inflation and unemployment (and of alternative fiscal and monetary policies) using general equilibrium and dynamic disequilibrium adjustment models of real output, labor, real capital and financial markets (both domestic and international).

**Prerequisite(s):** ECON 101, ECON 102 (or equivalents approved by the instructor, with grades of "B" or better).

**Grading:** Graded

*ECON 203A - Economic Research Methods*

3 unit(s)

Illustrates how to construct an economic study. Topics include basic statistical methods, cost-benefit analysis, data analysis, other quantitative techniques, literature reviews, and the professional standards of the discipline.

**Prerequisite(s):** ECON 3 & ECON 101 or instructor permission

**Grading:** Graded

*ECON 203B - Seminar in Econometric Methods*

3 unit(s)

Elements of statistical inference (t, F and Chi-square tests); the classical regression model and simultaneous equations models; estimation and prediction; the use of lagged and dummy variables; problems of multicollinearity, heteroskedasticity, serial correlation of disturbances and errors in the variables.

**Prerequisite(s):** ECON 103 or instructor consent.

**Grading:** Graded

*ECON 204 - Seminar in Mathematical Economics*

3 unit(s)

The use of mathematical techniques such as differential and integral calculus, linear algebra, topology, differential and difference equations, mathematical programming, optimal control theory and game theory to analyze economic models.

**Prerequisite(s):** ECON 104 (or equivalent).

**Grading:** Graded

**Note(s):** Offered summer and winter sessions and occasionally during the academic year.

*ECON 205 - Workshop in Policy Analysis*

3 unit(s)

Survey of major areas of economic policy such as taxes, transportation, health, housing, environment, trade and education. Students prepare a written report on some topic of policy analysis and present the results to the class.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*ECON 205A - Economic Decision Making (Quantitative Economic Analysis for Public Decision-Making)*

3 unit(s)

The nature and use of techniques for estimating the impact of alternative courses of action. Emphasizes fiscal impact analysis, cost benefit analysis, input-output analysis and multiplier methods.

**Prerequisite(s):** ECON 101 and ECON 102, or instructor consent.

**Grading:** Graded

*ECON 221 - Industrial Organization*

3 unit(s)

Analysis of the relations between industry structures, business conduct and economic performance under conditions of limited governmental interference. Appraises the role of competition and monopoly in the American economy. Stresses the role played by antitrust laws and regulatory commissions in the U.S. economy.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ECON 232 - Seminar in Public Finance*

3 unit(s)

The public sector. Determination of objectives of the public sector; pricing and output in the public sector; taxes, their distribution and allocative effects; public expenditure theory; public debt theory and policy.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*ECON 235 - Seminar in Monetary Theory and Policy*

3 unit(s)

Concentration on the theoretical aspects of money and monetary policy. Early and modern theories of money demand; early Keynesian and Monetarist monetary analysis; expectations and dynamic monetary business cycles; monetary policy under the Keynesian, Monetarist and New Classical assumptions; open economy monetary theory.

**Prerequisite(s):** ECON 1A, ECON 102 and ECON 135, or instructor consent.

**Grading:** Graded

*ECON 236 - Seminar in International Trade and Finance*

3 unit(s)

Advanced theory of international trade and finance and its application to current problems in international economics.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** Not offered on a regular basis.

*ECON 241 - Seminar in Law and Economics*

3 unit(s)

Examines the economic effects of legal institutions, existing and proposed, and economic analysis applied to the law.

Evaluation of the interactions between legal and economic principles and introduction to standard topics such as property rights, contracts, liability, and torts. Includes case studies, a proposal, research paper and oral presentation.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*ECON 251 - Seminar in Labor Economics*

3 unit(s)

Analysis of labor markets, utilizing economic theory and empirical techniques with applications to public policy. Topics include: investment in human capital; employee compensation issues; compensating wages; discrimination; unions; and public sector labor markets.

**Prerequisite(s):** Graduate Standing or Instructor consent.

**Grading:** Graded

**Note(s):** Offered summer and winter sessions and occasionally during the academic year.

*ECON 281 - Advanced Topics in Economics*

3 unit(s)

This course addresses current developments or special-interest topics in economics.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*ECON 285 - Applied Economics Internship*

3-6 unit(s)

Supervised work with a private or public employer.

**Prerequisite(s):** Graduate standing and 3.0 GPA.

**Grading:** Credit/No Credit

*ECON 298 - Special Study*

1-3 unit(s)

Advanced individual research projects.

**Prerequisite(s):** Instructor consent and department chair approval.

**Grading:** Mandatory CR/NC/RP

*ECON 298E - Special Study Comprehensive Exam*

1 unit(s)

Individual preparation for the comprehensive exam. Students must file for candidacy before enrolling. Approval of department chair, graduate advisor, or instructor is required. Satisfactory completion satisfies culminating experience requirement.

**Grading:** Mandatory CR/NC/RP

*ECON 299 - Master's Thesis or Project*

1-6 unit(s)

Open only to approved candidates for the MA - Economics degree.

**Grading:** Mandatory CR/NC/RP

*ECON 1290R - Culminating Experience Supervision*

1 unit(s)

Department and University support for progress to completion of culminating experience.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a culminating experience class or project.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Department of Environmental Studies

**Office:** Washington Square Hall 118

**Telephone:** 408-924-5450 (Voice); 408-924-5477 (Fax)

**Emails:** envstudies-ms@sjsu.edu (for Master's Program); globalstudies@sjsu.edu

**Websites:** Environmental Studies; Global Studies

### Professors

Katherine Cushing, Global Studies Coordinator

Kathryn Davis (Global Studies)

Gary A. Klee (Environmental Studies)

Rachel O'Malley (Environmental Studies)

William Russell, Graduate Program Coordinator

Lynne A. Trulio, Chair

### Associate Professors

Dustin Mulvaney (Environmental Studies)

### Assistant Professors

Metha Klock (Environmental Studies)

Carolina Prado (Environmental Studies)

Costanza Rampini (Environmental Studies)

## Overview

The mission of the Department of Environmental Studies is to provide students with rigorous interdisciplinary tools to study, manage and resolve environmental challenges. Among the first such programs in the country, the Department

of Environmental Studies at SJSU has been granting degrees and training environmental professionals since 1970. Today, our students experience hands-on learning through field courses, the Center for Development of Recycling, the Environmental Resource Center and off-campus internships. Alumni fill positions in fields including environmental impact assessment, habitat restoration, renewable energy, water policy, environmental education, sustainable agriculture, park management, environmental policy, integrated waste management, and recycling. The program in Global Studies recently joined the Department, expanding offerings and opportunities to students. The BA in Global Studies is an interdisciplinary program that looks at the world holistically, examining the connections between international human migrations, the movement of goods, technology transfers, and environmental change. The Department offers a BS degree, BA degree, and a BA preparation for teaching in Environmental Studies in addition to the BA in Global Studies. We also offer a range of minors to students around campus. For students wishing to go further, the Department offers one of the few research-based Master of Science degrees in Environmental Studies in the country.

## Structure of the Environmental Studies BS, BA and MS Degrees

The undergraduate Environmental Studies degrees are structured around four components: the preparation sequence, consisting of specific classes in economics, sciences, and math; the core classes in Environmental Studies, which provide a solid foundation in environmental issues integrating science, social science, and the humanities; advisor-approved minor focused on a specific career pathway; and electives. Electives may consist of classes both within and outside the department and must be approved in advance by an Environmental Studies faculty advisor. The Master of Science graduate degree is a thesis-based program that requires original research. Information on all aspects of these degrees is found on the advising sheets available in the department office in Washington Square Hall 118 and on the department website at <http://www.sjsu.edu/envs/>.

## Undergraduate

### Environmental Studies, BA

The BA degree, offered by the Department of Environmental Studies, is designed to prepare students for career opportunities in coastal resource management, environmental communications, environmental regulation and policy, integrated and solid waste management, human ecology and environmental planning.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	29
Major Preparation	12
Major Core Requirements	27
Major Electives	34
Advisor Approved Minor	18
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation



Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (29 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)

- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (12 units)

- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)
- MATH 18A - College Algebra 3 *unit(s)* (B4)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

### Major Requirements (79 units)

#### Core Courses (27 units)

- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- ENVS 100W - Environmental Research and Writing 3 *unit(s)* (Z)
- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*
- ENVS 110 - Resource Analysis 4 *unit(s)*
- ENVS 117 - Human Ecology 3 *unit(s)*
- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 185 - Environmental Impact Analysis 4 *unit(s)*
- ENVS 198 - Senior Seminar 4 *unit(s)*

#### Major Electives (34 units)

#### Field Courses (8 units)

Complete two courses:

- ENVS 118 - Sustainable Home Gardens 4 *unit(s)*
- ENVS 144 - California Wetland Controversies 4 *unit(s)*
- ENVS 154 - Sustainable Agriculture 4 *unit(s)*
- ENVS 161 - California Wildlands 4 *unit(s)*

- ENVS 166 - Nature and Conservation Photography 4 unit(s)
- ENVS 173 - Forest Ecology and Conservation 4 unit(s)
- ENVS 187 - Environmental Restoration 4 unit(s)
- ENVS 189 - Coastal Field Studies 4 unit(s)
- ENVS 190 - Advanced Environmental Impact Assessment 4 unit(s)
- ENVS 191 - Advanced Environmental Restoration 4 unit(s)
- ENVS 270 - Field Studies in Water Resource Management 4 unit(s)

## Complete One SJSU Studies Sequence (9 units)

### Sequence One (9 units)

- ENVS 168A - Global Climate Change I 6 unit(s)
- ENVS 168B - Global Climate Change II 3 unit(s) (R+S+V)

### Sequence Two (9 units)

- ENVS 150 - Introduction to Environmental Thought 3 unit(s) (S)
- ENVS 159 - Nature and World Cultures 3 unit(s) (V)

### Complete One 'R' Course From:

- ENVS 111 - Geology and the Environment 3 unit(s) (R)
- ENVS 113 - Atmospheric Pollution 3 unit(s) (R)
- ENVS 119 - Energy and the Environment 3 unit(s) (R)
- ENVS 152 - Globalization and the Environment 3 unit(s) (R)

## Advisor Approved Electives (17 units)

Additional units of advisor approved electives.

*Recommended that students take 1-9 units of ENVS 194 - Environmental Internship.*

## Advisor Approved Minor (18 units)

If the minor is fewer than 18 units, students must complete additional advisor approved electives.

## Total Units Required (120 units)

# Environmental Studies, BS

The BS degree, offered by the Department of Environmental Studies, is designed to prepare students for career opportunities in energy or water resources management, biological resource protection, aquatic environments, sustainable agriculture, energy resources, environmental health and safety, environmental impact assessment, environmental restoration, and wilderness open space resource management.

- Program Learning Outcomes

**Summary of Degree Units**

University Graduation Requirements	29
Major Preparation	24
Major Core Requirements	27
Major Electives	22
Advisor Approved Minor	18
<b>Total</b>	<b>120</b>

**University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

**Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

**General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

**University Requirements (29 units)****Core Lower Division General Education (21 units)**

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Upper Division General Education**

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

**American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (24 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)
- MATH 19 - Precalculus 5 *unit(s)* (B4)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

## Major Requirements (67 units)

### Core Courses (27 units)

- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- ENVS 100W - Environmental Research and Writing 3 *unit(s)* (Z)
- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*

- ENVS 110 - Resource Analysis *4 unit(s)*
- ENVS 117 - Human Ecology *3 unit(s)*
- ENVS 124 - Introduction to Environmental Law *3 unit(s)*
- ENVS 185 - Environmental Impact Analysis *4 unit(s)*
- ENVS 198 - Senior Seminar *4 unit(s)*

## Major Electives (22 units)

### Field Courses (8 units)

Complete two courses:

- ENVS 118 - Sustainable Home Gardens *4 unit(s)*
- ENVS 144 - California Wetland Controversies *4 unit(s)*
- ENVS 154 - Sustainable Agriculture *4 unit(s)*
- ENVS 161 - California Wildlands *4 unit(s)*
- ENVS 166 - Nature and Conservation Photography *4 unit(s)*
- ENVS 173 - Forest Ecology and Conservation *4 unit(s)*
- ENVS 187 - Environmental Restoration *4 unit(s)*
- ENVS 189 - Coastal Field Studies *4 unit(s)*
- ENVS 190 - Advanced Environmental Impact Assessment *4 unit(s)*
- ENVS 191 - Advanced Environmental Restoration *4 unit(s)*
- ENVS 270 - Field Studies in Water Resource Management *4 unit(s)*

### Choose one SJSU Studies Sequence (9 units)

#### Sequence One (9 units)

- ENVS 168A - Global Climate Change I *6 unit(s)*
- ENVS 168B - Global Climate Change II *3 unit(s) (R+S+V)*

#### Sequence Two (9 units)

- ENVS 150 - Introduction to Environmental Thought *3 unit(s) (S)*
- ENVS 159 - Nature and World Cultures *3 unit(s) (V)*

Complete One 'R' Course From:

- ENVS 111 - Geology and the Environment *3 unit(s) (R)*
- ENVS 113 - Atmospheric Pollution *3 unit(s) (R)*
- ENVS 119 - Energy and the Environment *3 unit(s) (R)*
- ENVS 152 - Globalization and the Environment *3 unit(s) (R)*

### Advisor Approved Electives (5 units)

Additional units of advisor approved electives.

*Recommended that students take 1-3 units of ENVS 194 - Environmental Internship .*

## Advisor Approved Minor (18 units)

If the minor is fewer than 18 units, students must complete additional advisor approved electives.

## Total Units Required (120 units)

# Environmental Studies, Preparation for Teaching, BA

This major, offered by the Department of Environmental Studies, is designed for students interested in teaching in elementary school or middle school. Students who wish to pursue a high school teaching career should complete a BA or BS in Environmental Studies in consultation with the department's undergraduate advisor for teaching. The following course work satisfies San José State University's requirements for a BA in Environmental Studies. The Commission on Teacher Credentialing in the state of California (CCTC) no longer recognizes Teacher Prep degrees as verification of subject matter competence. In order to verify subject matter competence for Multiple Subject Teaching Credential (K-8) individuals must pass all portions of the appropriate Commission-approved subject matter examination (CSET for Multiple Subjects).

Maintaining a minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	11
Major Core Requirements	24-25
Multiple Subjects Preparation Core	73-82
Internship	3
University Electives	0-9
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (11 units)

### Core Lower Division General Education (9 units)

Of the 39 units required by the university, 30 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**See courses in requirements of major, or consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (100-110 units)

### Core Courses (12 units)

- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- ENVS 117 - Human Ecology 3 *unit(s)*
- ENVS 158 - Environmental Education 3 *unit(s)*
- SOCS 177 - Sociology of Education 3 *unit(s)*

### Specialized Courses (12-13 units)

#### **Complete One Area of Specialized Coursework**



## Energy Resources (12 units)

- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 132 - Solar Home Design 3 *unit(s)*
- ENVS 133 - Sustainable Energy Strategies 3 *unit(s)*
- ENVS 100W - Environmental Research and Writing 3 *unit(s)* (Z) (or elective)

## Natural Resources (12 units)

- ENVS 128 - Water Resource Management 3 *unit(s)*
- ENVS 148 - Sustainable Materials Management 4 *unit(s)*
- ENVS 165 - National Parks 3 *unit(s)*
- ENVS 100W - Environmental Research and Writing 3 *unit(s)* (Z) (or elective)

## Policy and Procedures (12 units)

- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 187 - Environmental Restoration 4 *unit(s)*
- ENVS 189 - Coastal Field Studies 4 *unit(s)*
- ENVS 100W - Environmental Research and Writing 3 *unit(s)* (Z) (or elective)

## Multiple Subjects Preparation Core Curriculum Requirements (73-82 units)

### Reading, Language and Literature (22-25 units)

- ENGL 1A - First Year Writing 3 *unit(s)* (A2)
- ENGL 2 - Critical Thinking and Writing 3 *unit(s)* (A3) (ENGL 1B also accepted for Transfer Students.)
- ENGL 10 - Great Works of Literature 3 *unit(s)* (C2)
- ENGL 103 - Modern English 4 *unit(s)*
- ENGL 112A - Children's Literature 3 *unit(s)*

### Complete One Sequence From:

#### Sequence One

- COMM 45 - Media and Culture 3 *unit(s)* (A3)
- LING 108 - Introduction to Second Language Development, Teaching, and Assessment 3 *unit(s)*
- EDEL 108E - Teaching Reading in Linguistically and Culturally Diverse Classrooms 3 *unit(s)*

#### Sequence Two

- CHAD 150 - Development of Communicative Competence 3 *unit(s)*
- CHAD 151 - Developing Literacy in a Diverse Society 3 *unit(s)*

## History and Social Science (15 units)

- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

### Complete One Sequence From:

#### Asian American History

*Must complete both AAS 33A/AAS 33B to meet requirement.*

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

#### US History

*Must complete both HIST 15 and POLS 15 to meet requirement.*

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

#### Mathematics (9 units)

- MATH 12 - Number Systems 3 *unit(s)* (B4)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 *unit(s)*
- MATH 106 - Intuitive Geometry 3 *unit(s)*

#### Science (12 units)

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3) or ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- GEOL 103 - Earth Systems and the Environment 3 *unit(s)* (R)
- SCI 110 - Global Themes of Science 3 *unit(s)*

#### Visual and Performing Arts (9 units)

- CA 177 - Interdisciplinary Arts for Teaching 3 *unit(s)*

### Complete Two Courses From:

- ART 39 - Multicultural Arts for Children 3 *unit(s)*
- ART 138 - Elementary Art Methods 3 *unit(s)*
- DANC 148 - Children's Dance 3 *unit(s)*
- MUSC 10B - Introduction to Music 3 *unit(s)* (C1)
- MUSC 185A - Music for Children 3 *unit(s)*
- TA 131 - Storytelling 3 *unit(s)*

#### Physical Education and Health (3-6 units)

**Complete One Sequence From:**

Sequence One

- KIN 177 - Movement Experiences for Children 3 *unit(s)*
- EDTE 190 - Health Education for the Classroom Teacher 3 *unit(s)*

Sequence Two

- CHAD 149 - Child Health and Physical Activity 3 *unit(s)*

Human Development (3-6 units)

**Complete One Sequence From:**

Development Sequence One

- CHAD 60 - Child Development 3 *unit(s)* (E)

Development Sequence Two

- CHAD 70 - Lifespan Development in the 21st Century 3 *unit(s)* (E)
- PSYC 82 - Foundations of Developmental Psychology 3 *unit(s)*

Internship (3 units)

- ENVS 194 - Environmental Internship 1-9 *unit(s)*

University Electives (0-9 units)

Total Units Required (120 units)

## Global Studies, BA

### Overview

Global Studies, offered by SJSU's Department of Environmental Studies, is an interdisciplinary program that encourages students to look at the world holistically. The tremendous international migrations of people, movements of goods, technology transfers, and mixing of cultures makes it important to study the world as a human community in ways we haven't considered in the past. The program is designed to train future leaders to grapple with some of the most pressing issues of our time, from a global perspective. The focus of our program on studying global issues from multiple perspectives provides students the intellectual foundation and the analytical and communication skills to prepare for careers in government, education, NGOs, international development agencies, international philanthropic organizations, law, consulting, global health organizations, writing, and graduate study. We are the only Global Studies program in the San Francisco Bay Area and one of the few in the CSU system that offers an interdisciplinary program that includes a suite of core courses in Global Studies. Global Studies is a relatively new field and our program is at the leading edge of shaping this field for the future.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	6
Major Requirements	71
University Electives	2
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- GLST 100W - Writing Workshop 3 *unit(s)* (Z)

## Major Preparation (6 units)

- GLST 1A - Introduction to Global Studies 3 *unit(s)*
- GLST 1B - Introduction to Global Studies 3 *unit(s)* (B2)

## Major Requirements (71 units)

### Core Courses (12 units)

- GLST 162 - Contemporary Global Issues 3 *unit(s)*
- GLST 164 - Advanced Seminar in Global Citizenship 3 *unit(s)*
- GLST 179 - Capstone Seminar in Global Studies 3 *unit(s)*

### Complete One Course From:

- GLST 188 - Special Topics in International Experiences 3 *unit(s)* (V)
- GLST 189 - Global Experience 1-3 *unit(s)*

## Major Breadth Courses (36 units)

Complete Global Studies course and two additional courses in different departments in these four areas. GLST 187 may be substituted for one course with approval of advisor.

### Area 1: Global Sustainability (9-10 units)

- GLST 167 - Changing Ecologies of Globalization 3 *unit(s)* (R)

Complete Two Courses From:

- ANTH 129 - Environmental Anthropology 3 *unit(s)*
- BIOL 110 - Biodiversity and Biopolitics 3 *unit(s)* (R)
- COMM 146F - Communication and the Environment 4 *unit(s)*
- ENVS 150 - Introduction to Environmental Thought 3 *unit(s)* (S)
- ENVS 152 - Globalization and the Environment 3 *unit(s)* (R)
- ENVS 159 - Nature and World Cultures 3 *unit(s)* (V)
- GEOG 121 - Population and Global Change 3 *unit(s)*
- GEOL 111 - Geology and the Environment 3 *unit(s)* (R)
- GEOL 112 - Hazards, Risks of Earthquakes and Volcanoes 3 *unit(s)* (R)
- PH 172 - Contemporary Environmental Health Issues 3 *unit(s)* (R)
- METR 112 - Global Climate Changes 3 *unit(s)* (R)
- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- PHIL 126 - Environmental Ethics and Philosophy 3 *unit(s)*

### Area 2: Global Development, Population, Human Rights (9-11 units)

- GLST 143 - Gender, Power, Intl Dev 3 *unit(s)* (V)

Complete Two Courses From:

- ANTH 151 - Modernity and Disease 3 *unit(s)*
- ANTH 132 - Creating Built Worlds 3 *unit(s)*
- BUS5 187 - Global Dimensions of Business 3 *unit(s)*
- ECON 113B - Economic History of Europe 4 *unit(s)*
- ECON 190 - History of Economic Thought 4 *unit(s)*
- GEOG 115 - Global Development 3 *unit(s)*
- HIST 155 - 20th Century World 3 *unit(s)* (V)
- JS 171 - Human Rights and Justice 3 *unit(s)* (V)
- JS 172 - Human Trafficking and Modern Day Slavery 3 *unit(s)*
- JS 173 - Borders and Conflict 3 *unit(s)*
- POLS 147 - Globalization 4 *unit(s)*
- POLS 155 - The Wealth of Nations 4 *unit(s)*
- SOCI 118 - Sociology of Human Rights and Social Justice 3 *unit(s)*

- SOCI 160 - Immigration and Identity 3 *unit(s)*
- SOCI 169 - Political Sociology 3 *unit(s)*
- WOMS 102 - The Global Study of Women 3 *unit(s)* (V)
- WOMS 112 - Women in the Global Economy 3 *unit(s)*

### Area 3: Global Security and Technology (9-11 units)

- GLST 156 - Technology of the Modern World 3 *unit(s)*

#### Complete Two Courses From:

- ANTH 136 - Thought Control in Contemporary Society 3 *unit(s)*
- ANTH 146 - Culture and Conflict 3 *unit(s)* (V)
- BUS5 165A - Global Leadership 3 *unit(s)*
- COMM 115P - Communication and Conflict 4 *unit(s)*
- COMM 179 - Global Media and Resistance 3 *unit(s)* (V)
- GEOG 107 - Mapping the World 3 *unit(s)*
- GEOG 112 - Nations, Cultures, and Territorial Disputes 3 *unit(s)* (V)
- GEOG 170 - Introduction to Mapping and Geographic Information Systems 3 *unit(s)*
- GEOG 181 - Remote Sensing: Basic Theory and Image Interpretation 3 *unit(s)*
- JS 123 - Terrorism, Intelligence, and Security 3 *unit(s)*
- JS 161 - Introduction to Cybercrime 3 *unit(s)*
- MCOM 180 - Independent Study 1-6 *unit(s)*
- POLS 148 - Nationalism and Comparative Political Cultures 4 *unit(s)*
- POLS 150 - War and Peace 3 *unit(s)* (V)
- POLS 152A - International Organizations and NGOs 4 *unit(s)*
- TECH 198 - Technology and Civilization 3 *unit(s)* (V)

### Area 4: Global Cultures and Society (9-11 units)

- SOCI 116 - Global Society 3 *unit(s)*

#### Complete Two Courses From:

- ANTH 107 - Eating Culture: The Anthropology of Food 3 *unit(s)*
- ANTH 115 - The Emerging Global Culture 3 *unit(s)* (V)
- ANTH 148 - Religion and Anthropology 3 *unit(s)*
- ARTH 193A - Worlds of Art and Culture 3 *unit(s)* (V)
- ARTH 193B - East Meets West in Art 3 *unit(s)* (V)
- CA 173 - Thinking About Contemporary World Arts 3 *unit(s)* (V)
- COMM 152I - Communication in World Cultures 4 *unit(s)*
- COMM 173F - Intercultural Communication and Global Understanding 4 *unit(s)*
- COLT 121 - Introduction to Comparative Literature 4 *unit(s)*
- COLT 122 - Topics in Comparative World Literature 4 *unit(s)*
- COLT 124 - Literature and Religious Experience 3 *unit(s)*
- ENGL 117B - Global Film, Literature, and Cultures 3 *unit(s)* (V)
- ENGL 123A - Literature for Global Understanding-The Americas 3 *unit(s)* (V)

- ENGL 123B - Literature for Global Understanding-Africa 3 unit(s) (V)
- ENGL 123C - Literature for Global Understanding-Oceania 3 unit(s) (V)
- ENGL 123D - Literature for Global Understanding-Asia 3 unit(s) (V)
- ENGL 126 - Holocaust Literature 3 unit(s) (V)
- HIST 132 - Advanced Topics in World History 4 unit(s) (May be taken twice if topic changes and with advisor approval.)
- HUM 128 - Perspectives on the Twentieth Century: The West in a Global Context 3 unit(s) (V)
- LING 122 - English as a World Language 3 unit(s) (V)
- MCOM 106 - Global Mass Communication 3 unit(s)
- PHIL 120 - Comparative Philosophy Theory & Practice 3 unit(s)
- TECH 198 - Technology and Civilization 3 unit(s) (V)
- WOMS 189 - Islamic Perspectives on Gender 3 unit(s)

## Minor Requirement (15-18 units)

Global Studies majors are required to select a minor field in consultation with the Global Studies advisor.

## Major Upper Division Electives (0-8 units)

See a Global Studies Advisor for approved Upper Division Electives.

## University Electives (2 unit)

## Total Units Required (120 units)

# Master

## Environmental Studies, MS

The Master of Science in Environmental Studies program, offered by the Department of Environmental Studies, is designed to prepare students for careers as environmental professionals or to pursue further academic training in Ph.D. and other advanced degree programs. Global and local perspectives are integrated in the coursework and the faculty and students embrace a diversity of perspectives. Faculty members work closely with graduate students within the above areas of specialization to execute a program of study. For additional information, review the list of faculty thesis advisors and contact those with focus areas of interest to you. See the department website for more information: [www.sjsu.edu/envs/graduate](http://www.sjsu.edu/envs/graduate).

Our interdisciplinary curriculum embraces both quantitative and qualitative research, and some of the topics that it focuses on include:

- California Wild (Protected) Lands
- Forest Ecology and Conservation
- Climate Impacts Research
- Human Ecology
- Coastal Environments
- Agroecology
- Insect Conservation



- Corporate Sustainability
- Marine Environments
- Energy
- Nature and Conservation Photography
- Environmental Education
- Political Ecology
- Environmental Impact Assessment
- Pro-environmental Behavior
- Environmental Justice
- Sustainable Food Systems
- Environmental Policy
- Water Resources Management
- Environmental Restoration
- Wetlands Ecology, Restoration, and Management
- Wildlife Conservation and Management

## Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Environmental Studies Program. See the GAPE Graduate Admissions website and this Catalog for general information about admission requirements at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

The Department of Environmental Studies admits students to the Master of Science programs in Classified or Conditional Standing. Contact the department or see our admissions materials for specific application deadlines. For admission to classified standing the department requires the following:

1. An undergraduate degree in Environmental Studies or related field from an accredited institution.
2. An overall grade point average of 3.0 ("B") or better for the last 60 semester units of academic study.
3. The capability, in the opinion of the graduate committee, of successfully completing degree requirements.
4. The removal of deficiencies if preparation differs markedly from the BS - Environmental Studies at San José State University. (BA students may be required to complete a general science background.) Courses used to remove such deficiencies cannot be used to fulfill MS requirements. For further information, see the graduate coordinator.
5. Two letters of recommendation from university faculty members or professionals in the field.
6. A personal statement of purpose that describes your background and objectives for seeking the MS - Environmental Studies at SJSU. This letter should also convey a sense of focus and direction for thesis research and potential faculty thesis advisers in the department.
7. Applicants from countries in which the native language is not English must achieve a minimum score of 580 (Paper Based), 237 (Computer Based), or 92 (Internet Based) on the TOEFL exam for foreign students.

# Requirements for Admission to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status for which the following will be required: the ability, in the opinion of the departmental graduate committee, to remove deficiencies in a period not to exceed the equivalent of one full-time semester of coursework. The individual admission letter will explain the required terms and conditions for attaining Classified standing.

# Requirements for Advancement to Candidacy

Once a student has completed all required courses, with the exception of ENVS 299 - Master's Thesis or Project and has submitted a completed and signed thesis proposal to the Graduate Coordinator, a Petition to Advance to Candidacy must be submitted to the Graduate Coordinator and GAPE office. The application to candidacy should be submitted a year prior to the expected graduation date. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, students must secure a commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) or Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis or project proposal for the master's degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.

# Requirements for Graduation

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

In consultation with the department graduate coordinator, the candidate will develop and pursue a program of study. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approval Program.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Project) option as their program culminating experience. Each student must secure the commitment of three faculty members of the university, two of whom must be members of the permanent faculty, to serve as members of the student's Plan A (thesis) or Plan B (Project) committee, with one permanent faculty member agreeing to serve as chair. The committee must approve the student's thesis or project

proposal for the master's degree no later than one month prior to the end of the semester preceding the one in which enrollment in the final project or thesis course(s) is planned.

### **Plan A (Thesis)**

The thesis will include original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will undergo a thorough review and revision process under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. In addition, the candidate for the MS degree must successfully pass a final oral defense of the thesis.

### **Plan B (Project)**

Under rare circumstances, a very strong project of appropriate scope and depth for master's level work might be approved in lieu of the thesis. This option requires the written consent of at least three graduate advisors, the graduate coordinator, and the department chair. In addition to the required coursework, Plan B students will take comprehensive examinations on three topics to be arranged by the student's project committee.

## Master's Requirements (30 units)

### Seminars (9 units)

- ENVS 200 - Seminar: Environmental Methods *3 unit(s)*
- ENVS 250 - Seminar: Environmental Thought and Philosophy *3 unit(s)*
- ENVS 297 - Research and Proposal Development *3 unit(s) (GWAR)*

### Application Science (9 units)

9 units of 100- or 200-level field analysis, laboratory work, or other form of application science selected with advisor's approval.

### Electives (6 units)

- 100- or 200-level courses in Environmental Studies or related fields selected with advisor's approval. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

### Culminating Experience (6 units)

#### **Complete One Option (Plan A or Plan B):**

#### Plan A (Thesis) (6 units)

- ENVS 299 - Master's Thesis or Project *1-6 unit(s)*

#### Plan B (Project) (6 units)

- ENVS 298 - Special Study *1-4 unit(s) (3 units required)*

- Additional 3 units of electives selected with advisor's approval 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Global Citizenship Certificate (Graduate)

#### Overview

Global Studies at SJSU is an interdisciplinary program that encourages students to look at the world holistically. The tremendous international migrations of people, movements of goods, technology transfers, and mixing of cultures makes it important to study the world as a human community in ways we haven't considered in the past. The program is designed to train future leaders to grapple with some of the most pressing issues of our time, from a global perspective. The focus of our program on studying global issues from multiple perspectives provides students the intellectual foundation and the analytical and communication skills to prepare for careers in government, education, NGOs, international development agencies, international philanthropic organizations, law, consulting, global health organizations, writing, and graduate study. We are the only Global Studies program in the San Francisco Bay Area and one of the few in the CSU system that offers an interdisciplinary program that includes a suite of core courses in Global Studies. Global Studies is a relatively new field and our program is at the leading edge of shaping this field for the future.

Global Citizenship is an interdisciplinary certificate program intended to assist students and members of the non-student community in understanding the interconnectedness of peoples, genders, cultures, and societies and celebrating the richness of human diversity in a global context. The program complements SJSU's goals of globalizing the campus and graduating students who are globally responsible citizens. Students will examine questions of meaning and value associated with citizenship in today's increasingly connected world. Students will also develop their own understanding of personal, social, and corporate responsibility to the global community. In a rapidly changing world, it is necessary for college students to acquire the knowledge, skills, values, and attitudes to adapt and thrive in the enlarged and evolving global context.

### Certificate Requirements (15 units)

#### Lower Division Electives (6 units)

Complete two courses from:

- ANTH 11 - Cultural Anthropology 3 *unit(s)* (D1)
- ARTH 70B - Art History, Renaissance to Modern 3 *unit(s)* (C1)
- ARTH 70C - Arts of Asia 3 *unit(s)* (C1)
- COMM 74 - Fundamentals of Intercultural Communication 3 *unit(s)* (E)
- ENGL 40 - Contemporary World Fiction 3 *unit(s)* (C2)
- GEOG 10 - Cultural Geography 3 *unit(s)* (D1)

- GEOG 12 - Global Geography 3 unit(s) (D2)
- GLST 1A - Introduction to Global Studies 3 unit(s)
- HIST 1A - World History to 1500 3 unit(s)
- HIST 1B - World History from 1500 3 unit(s)
- MUSC 19 - Music in World Cultures 3 unit(s) (C1)
- POLS 2 - Introduction to Comparative Politics 3 unit(s) (D2)
- POLS 4 - Introduction to International Relations 3 unit(s) (D3)
- RELS 70 - Gods, Guns, Gurus, Grails-World Religion 3 unit(s) (C2)

## Upper Division Electives (6 units)

*Note: Students who have not satisfied the prerequisites for SJSU Studies will select the 3 courses that are not SJSU Studies Courses. Alternatively those students may wait to satisfy this requirement until completion of SJSU Studies prerequisites.*

Complete two courses from:

- GLST 143 - Gender, Power, Intl Dev 3 unit(s) (V)
- GLST 156 - Technology of the Modern World 3 unit(s)
- GLST 162 - Contemporary Global Issues 3 unit(s)
- GLST 164 - Advanced Seminar in Global Citizenship 3 unit(s)
- GLST 167 - Changing Ecologies of Globalization 3 unit(s) (R)
- HIST 155 - 20th Century World 3 unit(s) (V)

## Additional Requirements (3 units)

*Note: Students may take GLST 189 either for a volunteer or internship abroad or for working with a local community with approval of the Global Studies advisor. A semester abroad or FLP summer class may also be substituted for this requirement.*

Complete one course from:

- GLST 188 - Special Topics in International Experiences 3 unit(s) (V)
- GLST 189 - Global Experience 1-3 unit(s)

## Total Units Required (15 units)

## Minor

## Environmental Impact Assessment Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (42 units)

- ENVS 10 - Life on a Changing Planet 3 *unit(s)* (B2)
- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 151 - Race, Class and the Environment 3 *unit(s)*
- ENVS 185 - Environmental Impact Analysis 4 *unit(s)*
- ENVS 190 - Advanced Environmental Impact Assessment 4 *unit(s)*

### Complete One Course From:

- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 128 - Water Resource Management 3 *unit(s)*
- ENVS 129 - Water Policy in the Western U.S. 3 *unit(s)*

### Complete One Course From:

- ENVS 144 - California Wetland Controversies 4 *unit(s)*
- ENVS 173 - Forest Ecology and Conservation 4 *unit(s)*
- ENVS 187 - Environmental Restoration 4 *unit(s)*
- ENVS 270 - Field Studies in Water Resource Management 4 *unit(s)*

### Total Units Required (24 units)

## Environmental Justice Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

- ENVS 127 - Community-Based Participatory Research 3 *unit(s)*
- ENVS 150 - Introduction to Environmental Thought 3 *unit(s)* (S)
- ENVS 151 - Race, Class and the Environment 3 *unit(s)*

### Complete One Course From:

- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- AFAM 25 - The Changing Majority: Power and Ethnicity in America 3 *unit(s)* (D2)

### Complete One Course From:

- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 129 - Water Policy in the Western U.S. 3 *unit(s)*
- ENVS 140 - Politics and the Environment 3 *unit(s)*

- ENVS 159 - Nature and World Cultures 3 *unit(s)* (V)

### Complete One Course From:

- AFAM 130 - Psychology of the Black Community 3 *unit(s)*
- AFAM 133 - Introduction to Social Issues in Planning 4 *unit(s)*
- AFAM 142 - Race, Ethnicity, and the Law 3 *unit(s)*
- AFAM 145 - Urban Policy and Its Impact on Inner City Residents 4 *unit(s)*
- AFAM 159 - Economic Issues in the Black Community 3 *unit(s)*
- AFAM 160 - Blacks in U.S. Politics and Society 3 *unit(s)*

### Total Units Required (18 units)

## Environmental Restoration Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (24 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2B3)
- ENVS 144 - California Wetland Controversies 4 *unit(s)*
- ENVS 154 - Sustainable Agriculture 4 *unit(s)*
- ENVS 173 - Forest Ecology and Conservation 4 *unit(s)*
- ENVS 187 - Environmental Restoration 4 *unit(s)*
- ENVS 191 - Advanced Environmental Restoration 4 *unit(s)*

### Total Units Required (24 units)

## Environmental Studies Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (19 units)

- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 185 - Environmental Impact Analysis 4 *unit(s)*
- Two Advisor-approved electives 6 *unit(s)*

## Complete One Course From:

- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*
- ENVS 119 - Energy and the Environment 3 *unit(s) (R)*

## Total Units Required (19 units)

# Global Studies Minor

### Overview

Global Studies at SJSU is an interdisciplinary program that encourages students to look at the world holistically. The tremendous international migrations of people, movements of goods, technology transfers, and mixing of cultures makes it important to study the world as a human community in ways we haven't considered in the past. The program is designed to train future leaders to grapple with some of the most pressing issues of our time, from a global perspective. The focus of our program on studying global issues from multiple perspectives provides students the intellectual foundation and the analytical and communication skills to prepare for careers in government, education, NGOs, international development agencies, international philanthropic organizations, law, consulting, global health organizations, writing, and graduate study. We are the only Global Studies program in the San Francisco Bay Area and one of the few in the CSU system that offers an interdisciplinary program that includes a suite of core courses in Global Studies. Global Studies is a relatively new field and our program is at the leading edge of shaping this field for the future.

Students may complete a minor in Global Studies by completing 15 units of lower and upper division core coursework in Global Studies.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Complete One Course From:

- GLST 1A - Introduction to Global Studies 3 *unit(s)*
- GLST 1B - Introduction to Global Studies 3 *unit(s) (B2)*

### Complete One Course From:

- GLST 188 - Special Topics in International Experiences 3 *unit(s) (V)*
- GLST 189 - Global Experience 1-3 *unit(s)*

### Complete Three Courses From:

- GLST 143 - Gender, Power, Intl Dev 3 *unit(s) (V)*
- GLST 156 - Technology of the Modern World 3 *unit(s)*
- GLST 162 - Contemporary Global Issues 3 *unit(s)*



- GLST 164 - Advanced Seminar in Global Citizenship 3 *unit(s)*
- GLST 167 - Changing Ecologies of Globalization 3 *unit(s)* (R)
- GLST 187 - Special Topics 3 *unit(s)*

Total Units Required (15 units)

## Park Ranger and Administration Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (19-21 units)

Core Courses (13 units)

- ENVS 187 - Environmental Restoration 4 *unit(s)*
- Three 3-unit lower division (CSU-transferable) courses from an A.S. degree in Park Management, from West Valley College or equivalent program 9 *unit(s)*

Additional Units (6-8 units)

Complete two courses from:

- ENVS 144 - California Wetland Controversies 4 *unit(s)*
- ENVS 154 - Sustainable Agriculture 4 *unit(s)*
- ENVS 165 - National Parks 3 *unit(s)*
- ENVS 173 - Forest Ecology and Conservation 4 *unit(s)*
- ENVS 189 - Coastal Field Studies 4 *unit(s)*
- POLS 114 - Introduction to Public Administration 3 *unit(s)*

Total Units Required (19-21 units)

## Sustainable Energy Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (23 units)

- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1B3)
- ENVS 116 - Solar Energy Analysis 3 *unit(s)*

- ENVS 119 - Energy and the Environment 3 unit(s) (R)
- ENVS 130 - Energy Policy Analysis 3 unit(s)
- ENVS 133 - Sustainable Energy Strategies 3 unit(s)

### Choose One Course From:

- ENVS 132 - Solar Home Design 3 unit(s)
- ENVS 137 - Green Building Design Issues 3 unit(s)

### Total Units Required (23 units)

## Sustainable Water Resources Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (21 units)

- ENVS 1 - Introduction to Environmental Issues 3 unit(s) (D1)
- ENVS 128 - Water Resource Management 3 unit(s)
- ENVS 129 - Water Policy in the Western U.S. 3 unit(s)
- ENVS 144 - California Wetland Controversies 4 unit(s)
- ENVS 154 - Sustainable Agriculture 4 unit(s)
- ENVS 270 - Field Studies in Water Resource Management 4 unit(s)

### Total Units Required (21 units)

#### *ENVS 1 - Introduction to Environmental Issues*

3 unit(s)

What effects are human activities having on the natural environment and our quality of life? Discover the technical and social causes of environmental degradation; learn how your personal and career choices can protect the environment for current and future generations.

*Satisfies D1: Human Behavior*

**Grading:** Graded

#### *ENVS 10 - Life on a Changing Planet*

3 unit(s)

An introduction to basic knowledge and theory in the life sciences, focusing on the theme of environmental change. Examines challenging issues in biology and methods for evaluating conflicting data and claims. Develops students' analytical and writing skills.

*Satisfies B2: Life Science*

**Prerequisite(s):** As required for Core GE courses in B2.  
**Grading:** Graded

*ENVS 92 - International Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*ENVS 100W - Environmental Research and Writing*

3 unit(s)  
Advanced research and writing skills for future environmental professionals. Focus on issues, literature and challenges associated with environmental writing. Emphasis on writing for technical and general audiences. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.  
**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*ENVS 105 - Environmental Change and Problems, San Francisco Bay Area*

3 unit(s)  
Systematic inquiry into physical environments of the San Francisco Bay Area, with emphasis on impacts and changes to those systems by human action. Analysis of public action and policies regarding regional environmental issues.

**Prerequisite(s):** ENVS 1 and ENVS 100W.  
**Grading:** Graded

**Note(s):** Offered only occasionally.

*ENVS 106 - Exploring Ocean Environments*

3 unit(s)  
Understand human interactions with marine environments by exploring the ocean as a place of socio-ecological encounter. Students learn and employ interdisciplinary approaches to conceptualizing, knowing, exploiting, and managing ocean environment.

**Grading:** Graded

*ENVS 107 - Introduction to Environmental Economics and Policy*

3 unit(s)  
Analysis of basic economic and political factors related to the environmental crisis. Surveys policy approaches to the problem: regulation, taxes, subsidies, cost benefit analysis.

**Prerequisite(s):** ECON 1B or instructor consent.

**Grading:** Graded

*ENVS 108 - Cost-Benefit Analysis*

*4 unit(s)*

Theory and practice of cost-benefit analysis applied to various topics including public projects and environment. Welfare foundations of CBA, valuation of goods (such as clean air, wilderness, and sports arenas), discounting future values and cost.

**Prerequisite(s):** ECON 1B and ECON 3 or STAT 95, or instructor consent

**Grading:** Graded

*ENVS 110 - Resource Analysis*

*4 unit(s)*

Quantitative analysis of Earth's natural resources. Topics typically include the status and trends of resources such as topsoil, agriculture, water, energy, wildlife and the impacts of human population growth on these resources. Emphasis is on problem solving and computational methods applied to resource management problems.

*Misc/Lab: Lecture 4 hours/lab 3 hours.*

**Prerequisite(s):** ENVS 1, ENVS 10, STAT 95.

**Grading:** Graded

*ENVS 111 - Geology and the Environment*

*3 unit(s)*

The effect of Earth processes on humans and their structures. Environmental problems related to earthquakes, landslides, minerals, energy, water and urban growth.

*Lecture 3 hours/field trips.*

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 112 - Hazardous Waste*

*3 unit(s)*

Familiarization with major environmental problems through study of federal, state and regional regulation of hazardous waste management. Methods of treatment, disposal and destruction.

**Prerequisite(s):** Junior standing, two semesters chemistry and biological science or instructor consent.

**Grading:** Graded

*ENVS 113 - Atmospheric Pollution*

3 unit(s)

Descriptive discussion of the sources, effects and fates of pollutants in the atmosphere. Interaction of pollutants and weather systems, including acid precipitation, ozone destruction; air pollution policy and regulations.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 116 - Solar Energy Analysis*

3 unit(s)

Provides a comprehensive overview of sustainable solar energy resources, economics, and policy. Includes a review of basic solar energy physics and interdisciplinary analysis of economic, social justice and environmental strategies for a solar powered civilization.

**Prerequisite(s):** ENVS 119, PHYS 2A, and PHYS 2B or instructor consent

**Grading:** Graded

*ENVS 117 - Human Ecology*

3 unit(s)

Diversity and similarity of human adaptation, cultural evolution, cultural change and environmental modification in African, Asiatic, Oceanic and Latin American cultural groups. Emphasis: traditional non-Western conservation practices and their lessons for the modern-day resource manager.

**Prerequisite(s):** ENVS 1, ENVS 10 and ENVS 100W, or instructor consent.

**Grading:** Graded

*ENVS 118 - Sustainable Home Gardens*

4 unit(s)

Techniques for designing landscape gardens which are sustainable in the various biomes of California. Students first research, explore, and photograph California native plant communities. Then, they design a California native home garden based on their field investigations and principles of ecology.

*Misc/Lab: Lecture 3 hours / Activity 2 hours*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*ENVS 119 - Energy and the Environment*

3 unit(s)

Introduces students to the sources of energy that fuel industrial civilization and the environmental impacts of energy extraction, distribution, and consumption. Explores a range of approaches to moving society toward a more sustainable energy future.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 121 - Population and Global Change*

*3 unit(s)*

Impact of population changes on countries, regions, and their environments. Demographic comparisons of developed and developing societies from perspectives of land use, economics and politics.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENVS 122 - Borderlands and the Environment*

*3 unit(s)*

Comparative study of environmental issues in borderland regions, which encompass environmental, economic, cultural, political and social processes surrounding a geopolitical border. Investigation of historical, cultural, and political causes and responses to environmental problems. Analysis of understandings of territory, nation-states, and exclusion based on theories in border studies, environmental studies, and the study of social movements.

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*ENVS 124 - Introduction to Environmental Law*

*3 unit(s)*

Development, interpretation, application and enforcement of environmental laws, regulations and legal policies by legislatures, courts, administrative agencies and citizens. Examination of air and water quality, hazardous materials, workplace, land use and wetlands regulation, international, ethical and efficacy issues.

**Prerequisite(s):** ENVS 1 or Instructor Consent.

**Grading:** Graded

*ENVS 125 - Advanced Environmental Law*

*3 unit(s)*

Detailed evaluation of practical environmental law problems. Students use an interdisciplinary approach, combining evaluation of technical data with review and application of law and policy. Extensive legal analysis and writing.

**Prerequisite(s):** ENVS 1 and ENVS 124.

**Grading:** Graded

*ENVS 126 - Environmental Ethics and Philosophy*

3 unit(s)

Extensions and applications of Kantian, Lockean, consequentialist and other philosophical theories of value to problems of the environment such as pollution, global warming, species depletion and overpopulation.

**Prerequisite(s):** 3 units of philosophy or upper division standing.

**Grading:** Graded

*ENVS 127 - Community-Based Participatory Research*

3 unit(s)

This course integrates interdisciplinary theory and practice in developing a situated understanding of community-based participatory research (CBPR) toward redressing environmental inequities. Students will apply these theories and practices in their own environmental research and advocacy projects regarding local environmental issues.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*ENVS 128 - Water Resource Management*

3 unit(s)

Water uses and supplies; water resource measurement methods; hydrology; erosional processes; sediment production and transport particularly on Northern California coastal watershed; flood hazards and methods of control; groundwater and groundwater aquifers; water quality.

**Prerequisite(s):** ENVS 129 and STAT 95 or appropriate math course; or instructor consent.

**Grading:** Graded

*ENVS 129 - Water Policy in the Western U.S.*

3 unit(s)

Water resource development; federal reclamation policy; water law and water rights; interbasin transfers; Colorado River, Central Valley Project and State Water Project; groundwater overdrafting; agricultural water and water pricing.

**Prerequisite(s):** ENVS 1 or Instructor Consent.

**Grading:** Graded

*ENVS 130 - Energy Policy Analysis*

3 unit(s)

Energy policy questions and examination of choices including energy pricing, options for controlling oil imports, incentives for reducing consumption, allocation and end use controls, synthetic fuel production, offshore oil development.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENVS 131 - Air Pollution Meteorology*

3 unit(s)

Quantitative description of contaminants in the atmosphere: sources, dispersion and sinks; their effects on atmospheric energy balance and condensation.

**Prerequisite(s):** METR 121B or instructor consent.

**Grading:** Graded

*ENVS 132 - Solar Home Design*

*3 unit(s)*

Techniques for designing environmentally-sensitive, healthy, passive solar homes via site selection, energy conservation, lighting, non-hazardous natural building materials. Residential passive solar heating and cooling approaches for retrofits and new construction. For homeowners, teachers, professional designers and architects.

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*ENVS 133 - Sustainable Energy Strategies*

*3 unit(s)*

Challenges and opportunities facing sustainable energy pathways for heat, fuel, and electricity with a focus on energy efficiency, solar, wind, geothermal, bioenergy, alternative modes of transportation and other energy consuming infrastructures.

**Prerequisite(s):** ENVS 119, PHYS 2A, and PHYS 2B or instructor consent

**Grading:** Graded

*ENVS 135 - U.S. Environmental Policy*

*3 unit(s)*

Inquiry focuses on state of the environment, public attitudes toward the problem, interest groups involved in formulation of policy, the response of government leaders to the problem and what the future outlook is for addressing the agenda.

**Grading:** Graded

*ENVS 136 - Intro to Land Use and Urban Planning*

*4 unit(s)*

Land use and facilities planning practices in the context of American cities, emphasizing interrelationships between various land uses and public facilities and service requirements. Study of the role of public law in addressing urban growth and environmental change issues.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 137 - Green Building Design Issues*

*3 unit(s)*

Provides an overview of green building design strategies based on renewable energy, water conservation, healthy interior design, beneficial building orientation, native landscaping, sustainable building materials; includes economics, policy, and green building auditing and certifications.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded



*ENVS 140 - Politics and the Environment*

3 unit(s)

Application of different political strategies to local issues examined through examples from specific environmental challenges facing the Bay Area. Considers relative contributions of the public, elected officials, government employees and interest groups in environmental decision-making.

**Prerequisite(s):** ENVS 1, ENVS 107 and ENVS 124 or instructor consent.

**Grading:** Graded

*ENVS 142 - Introduction to Environmental Planning*

4 unit(s)

Environmental sustainability and its application to local planning. Review of regulatory tools and legislation that underlie most environmental planning and current environmental planning topics. Course may be repeated for credit when topic changes.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 144 - California Wetland Controversies*

4 unit(s)

Impact of agriculture, urbanization and other human land uses upon the California coastal wetlands with emphasis on current environmental problems and controversies. State public agencies concerned with vital environmental problems and analysis of current environmental legislation. May be repeated for a maximum of 8 units.

*Misc/Lab: Lecture 4 hours/lab 4 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*ENVS 146F - Communication and the Environment*

4 unit(s)

Examination of communication in environmental issues, especially conflicting values and modes of discourse that assume different meanings of human-nature relationship. Emphasis on environmentalism as popular movement, rhetoric of radical ecology and the technical discourse of environmental policy administration.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 148 - Sustainable Materials Management*

4 unit(s)

Focuses on practical understanding and approaches to managing discarded materials for sustainability. An interdisciplinary perspective that includes politics, business, economics, marketing, science, and environmental principles. Provides direct experience through field trips and service learning.

*Misc/Lab: 3 hours lecture/ 2 hours lab*

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Graded

*ENVS 150 - Introduction to Environmental Thought*

3 unit(s)

An introduction to significant works in the field of environmental studies. Topics covered include preservation, conservation, biocentrism, environmental justice, eco-feminism, deep ecology, and environmental activism.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Pass the WST before enrollment. Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 151 - Race, Class and the Environment*

3 unit(s)

Analysis of the relationship between the environmental crisis and people of color and poor communities in the U.S., emphasizing the interplay among race/ethnicity, class and politics in the struggle for environmental justice and survival by communities of color and poor people.

**Grading:** Graded

*ENVS 152 - Globalization and the Environment*

3 unit(s)

Scientific approach to goods distribution worldwide, and environmental consequences of shipping materials and packaging, which when discarded become waste. Mutual interests of commerce and environment.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 154 - Sustainable Agriculture*

4 unit(s)

Analysis of and practicum in environmentally sustainable methods of food production, emphasizing biological diversity, water conservation, air quality, social equity and economic justice. Special focus on primary research in natural and social sciences for sustainable agriculture. Field trips and labs.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 1 and GE B2 course, or instructor consent.

**Grading:** Graded

*ENVS 156 - Introduction to Local Transportation Planning*

4 unit(s)

Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 158 - Environmental Education*

3 unit(s)

Education of individuals can make a difference in protecting the environment. Comprehensive overview from the perspective of schools, American culture and law. Interdisciplinary approaches for correcting conditions created by modern living, energy and environmental demands.

**Prerequisite(s):** ENGL 1A and ENGL 2; upper division standing or instructor consent.

**Grading:** Graded

*ENVS 159 - Nature and World Cultures*

3 unit(s)

The influence of industrialization and globalization on earth and the environment as seen through culture.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 160 - Topics in Environmental Planning*

4 unit(s)

In-depth examination of selected topics specifically related to environmental planning. Consult department for current offerings. Course may be repeated for credit when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*ENVS 161 - California Wildlands*

4 unit(s)

Discussion and field analysis of California's wildlands, including the range of biodiversity, associated agencies, environmental issues, policy choices and management approaches to protect different types of open space.

*Misc/Lab: 3 hours lecture/ 2 hours lab*

**Prerequisite(s):** ENVS 1 and ENVS 100W

**Grading:** Graded

*ENVS 165 - National Parks*

3 unit(s)

An exploration of the history, philosophy, and science of park and wilderness preservation. Includes site visits to selected parks and wilderness areas.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 166 - Nature and Conservation Photography*

4 unit(s)

Still photography of nature and illustrative conservation subjects in both color and black and white. Theory critique sessions supplemented with field experience. May be repeated for a maximum of 8 units.

*Misc/Lab: Lecture 2 hours/activity 4 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Photo experience or instructor consent.

**Grading:** Graded

*ENVS 167 - Managing Environmental Issues*

3 unit(s)

The management of environmental issues, including the relationship of business to the natural environment; the public policy context of management decision-making; and the greening of the corporation and implications for strategic management, operations, human resources, marketing and accounting.

**Grading:** Graded

*ENVS 168A - Global Climate Change I*

6 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 168B - Global Climate Change II*

3 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

*Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding*

**Prerequisite(s):** COMM 168A / ENVS 168A / GEOL 168A / HUM 168A / METR 168A; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ENVS 169 - Introduction to Social Media in Planning*

*1-4 unit(s)*

An introduction to social media tools and their use in urban planning, with a particular emphasis on public participation.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*ENVS 170 - Introduction to Environmental Health and Safety*

*3 unit(s)*

An overview of environmental health and safety issues that affect industry and government, including regulatory framework and basic technical elements; course covers historical and legislative background, risk management and training required in the field.

**Prerequisite(s):** ENVS 100W.

**Grading:** Graded

*ENVS 173 - Forest Ecology and Conservation*

*4 unit(s)*

A field based course designed to provide students with the conceptual framework and practical tools necessary for understanding the ecology and conservation of local forest ecosystems. Topics covered include forest restoration, succession, wildlife, diversity, natural and human disturbance, and the history of forest management.

*Misc/Lab: Lecture 3 hours/lecture 2 hour/lab.*

**Prerequisite(s):** ENVS 1, ENVS 10, or upper division standing.

**Grading:** Graded

*ENVS 178 - Intro to Regional Transport Planning*

*4 unit(s)*

Principles and concepts relevant to transportation planning and policy at the regional level, such as historical and current regional transportation planning processes, the relationship between regional travel demand and transportation infrastructure, and travel demand modeling practices.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*ENVS 179A - Fundamentals of GIS for Urban Planning*

4 unit(s)

Exploration of Geographic Information Systems (GIS) area analysis techniques for spatial information management in local government: planning support systems, needs analysis, envisioning neighborhoods utilizing multiple maps, charts, photos and the Internet. Course may be repeated for credit when topic changes.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*ENVS 181 - Environmental Resource Center*

1-3 unit(s)

Supervised projects that support the Environmental Resource Center, a source of sustainability information and activities for the campus and community; projects help students take personal action toward achieving a sustainable lifestyle.

*Misc/Lab: Activity 2-6 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** ENVS 1 or instructor consent.

**Grading:** Credit/No Credit

*ENVS 184 - Directed Reading*

1-4 unit(s)

Directed reading in an environmental subject to gain broader knowledge. Repeatable: Repeatable for credit.

**Prerequisite(s):** Specific proposal to or need defined by department, with consent of faculty.

**Grading:** Credit/No Credit

*ENVS 185 - Environmental Impact Analysis*

4 unit(s)

Current environmental impact reports subjected to critical review; determination of alternative procedures and mitigating opportunities; extensive field analysis and practice.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 1, ENVS 124 or instructor consent.

**Grading:** Graded

*ENVS 187 - Environmental Restoration*

4 unit(s)

Interdisciplinary art and science of restoring destroyed or degraded habitats. Emphasis on the interplay of ecological principles, policy, public involvement and economics in the planning, implementation and monitoring of restoration plans. Field work and independent research required.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 1, GE B2 course and any 100W, or instructor consent.

**Grading:** Graded

*ENVS 189 - Coastal Field Studies*

4 unit(s)

Introduction to coastal processes, resources, policy, and conservation. Course emphasizes environmental issues, human impact, and protection efforts focusing on adapting to coastal change. Students conduct research and participate in local field trips along the California coast.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** ENVS 1.

**Grading:** Graded

*ENVS 190 - Advanced Environmental Impact Assessment*

4 unit(s)

Advanced work in the field of environmental impact assessment. Analysis of EIA documents for regulatory adequacy, consistency with local planning documents and technical accuracy.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 185 or instructor consent.

**Grading:** Graded

*ENVS 191 - Advanced Environmental Restoration*

4 unit(s)

Advanced restoration research and applications. Emphasis on independent literature research and field data collection. Participation in on-going restoration project. Fieldwork and grasp of restoration principles required.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 187.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*ENVS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ENVS 193 - Supervised Projects and Research*

1-15 unit(s)

Projects and/or research to build practical environmental skills. Work on or off campus on projects with direct social value.

*Course may be repeated for credit for up to 15 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*ENVS 194 - Environmental Internship*

*1-9 unit(s)*

Service in a local, city, county, state or federal environmental/sustainability agency, school or in environmental/sustainability industry; or with a worthwhile environmental education or protection organization or center.

**Prerequisite(s):** Senior standing in Environmental Studies.

**Grading:** Credit/No Credit

*ENVS 195 - Instructor Assistant in Environmental Studies*

*1-3 unit(s)*

Experience as a tutor assistant in classroom demonstrations, field techniques and discussion. May be repeated for a 4 unit maximum, but not for same course or instructor.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Senior standing, ENGL 1A, instructor consent and appropriate academic background.

**Grading:** Credit/No Credit

*ENVS 198 - Senior Seminar*

*4 unit(s)*

Culmination of interdisciplinary curriculum in environmental studies through integration and critical assessment of the field. Primary research, fieldwork, and project presentation supports transition from undergraduate experience to full professionalism.

**Prerequisite(s):** Filed for graduation, completion of Environmental Studies core, including ENVS 100W.

**Grading:** Graded

*ENVS 199 - Senior Thesis*

*3 unit(s)*

Thesis demonstrating grasp of environmental subjects and principles, ability to research in depth particular environmental problems and facility at recommending practical solutions.

**Prerequisite(s):** Senior standing in Environmental Studies, completion of all Environmental Studies core requirements and university 100W writing requirement.

**Grading:** Credit/No Credit

*ENVS 200 - Seminar: Environmental Methods*

*3 unit(s)*

Rigorous analysis of methods used by social, physical and natural scientists in assessing a region's natural resources and quality of environment. Environmental application of such techniques as field methods, maps, social surveys and project evaluation. Critique of individual research proposals.



**Prerequisite(s):** ENVS 297 and consent of graduate advisor.

**Grading:** Graded

*ENVS 210 - Current Topics in Environmental Studies*

1-3 unit(s)

An investigation of current research topics in the field of Environmental Studies. lectures by faculty, visiting scholars, and Master's student candidates are accompanied by class discussions and analysis of academic journal articles.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Student Standing or instructor consent

**Grading:** Credit/No Credit

*ENVS 227 - Advanced Community Based Participatory Research*

3 unit(s)

Integrates interdisciplinary theory and practice in developing a situated understanding of community-based participatory research (CBPR) toward redressing environmental inequities. Course explores the epistemological, environmental and movement-building imperatives for creating effective and responsible community-researcher partnerships for social, health and environmental justice.

**Grading:** Graded

*ENVS 230 - Seminar: Environmental Theory*

3 unit(s)

Intensive probe into interdisciplinary research and theories related to natural resources and environmental management. Applications of these theories to the present-day concerns of the resource manager and environmental professional. Oral critiques of various theories; advanced individual research paper and presentation.

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Graded

*ENVS 250 - Seminar: Environmental Thought and Philosophy*

3 unit(s)

An in-depth critical analysis of significant works in the field of environmental studies. Topics covered include preservation versus conservation, biocentrism, environmental justice, eco-feminism, deep ecology, and environmental activism. Individual student research is presented with oral and written reports.

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Graded

*ENVS 260 - Computer Applications in Environmental Analysis*

3 unit(s)

Overview of environmental simulation software used by professionals to investigate design alternatives and decision-making in the social and life sciences. Application of model designs to individual projects.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Graded

*ENVS 270 - Field Studies in Water Resource Management*

4 unit(s)

An intensive field investigation of water resource agencies and projects to acquaint resource managers, environmental quality specialists and other interested students with projects and philosophies unique to particular geographic areas.

*Misc/Lab: Lecture 4 hours/lab 2 hours.*

**Prerequisite(s):** Upper division standing and ENVS 128 or ENVS 129, or instructor consent.

**Grading:** Graded

*ENVS 284 - Directed Reading for Graduate Students*

3 unit(s)

Directed reading on an environmental subject to assist graduate-level research thesis development. Analysis of peer-reviewed and grey literature; development of a literature review.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate student standing or instructor consent

**Grading:** Credit/No Credit

*ENVS 285 - Graduate Internship*

3-9 unit(s)

Advanced service in a local, city, county, state agency, federal agency or environmental industry.

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Credit/No Credit

*ENVS 291 - Advanced Topics in Environmental Restoration*

4 unit(s)

High-level restoration research and applications for advanced students. Emphasis on independent literature research and field data collection/analysis. Participation in ongoing restoration project and/or thesis research. Fieldwork and grasp of restoration principles required. Repeatable for up to 8 units of credit

*Misc/Lab: Lecture 4 hours/Activity 2 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing and ENVS 187 or equivalent, or instructor consent.

**Grading:** Graded

*ENVS 292 - Intern'l Prgm Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*ENVS 295 - Graduate Teaching Assistant*

3 unit(s)

Teaching experience in environmental studies at the college level. Does not meet requirements for California Certification in Elementary or Secondary Education. May be repeated for maximum of 6 units, but not for same course or instructor.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Credit/No Credit

*ENVS 297 - Research and Proposal Development*

3 unit(s)

Students develop their thesis topic through extensive literature research. The product will be a draft thesis proposal to be circulated among potential committee members.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

*Repeatable for credit.*

**Prerequisite(s):** Graduate Standing in Environmental Studies or consent of instructor.

**Grading:** Graded

*ENVS 298 - Special Study*

1-4 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Mandatory CR/NC/RP

*ENVS 299 - Master's Thesis or Project*

1-6 unit(s)

Masters thesis research.

**Prerequisite(s):** Graduate standing in Environmental Studies or instructor consent.

**Grading:** Mandatory CR/NC/RP

*ENVS 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on dissertation, thesis, or project or in preparation for comprehensive exams beyond the minimum required units for cases in which final deliverables are still in progress and all other degree requirements except the culminating experience have been fulfilled.

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*GLST 1A - Introduction to Global Studies*

3 unit(s)

Introduces students to the scope of global studies as seen from the social and cultural perspectives. Readings based on the best critical studies of globalization and its outcomes. Occasionally, visiting professors will give new academic approaches to this field.

**Grading:** Graded

*GLST 1B - Introduction to Global Studies*

3 unit(s)

Presents scientific ways for understanding global phenomena and for developing policy to achieve positive outcomes of globalization. Interdisciplinary approaches require new analytical models. Visiting professors will collaborate with instructor.

*Satisfies B2: Life Science*

**Grading:** Graded

*GLST 92 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*GLST 100W - Writing Workshop*

3 unit(s)

Development of skills required for geographical research and writing.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** GA3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*GLST 143 - Gender, Power, Intl Dev*

3 unit(s)

Explore issues of poverty, gender, economic transformations, inequality while examining the history of development. Consider various meanings given to development by women and men, primarily as residents of particular regions, but also as aid workers, policy makers, and government officials. Explore the underlying political, economic, social, and gender dynamics that make "development" an ongoing problem world-wide.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GLST 156 - Technology of the Modern World*

3 unit(s)

Analysis of development and global diffusion of technology in the 20th and 21st centuries. Interrogates historical narratives of modern technology, reflecting on broader ethical, political, human significance of modern technology. Ecological impacts of technologies. Power, problems, promise of technology.

**Grading:** Graded

*GLST 162 - Contemporary Global Issues*

3 unit(s)

Interdisciplinary approach to contemporary global issues. Understanding and analyzing global issues are the focus of the course. Students will explore, analyze, and articulate the unique challenges each of the issues pose to the global community in ways that will foster student's ability to understand and evaluate causes, consequences, and responses to global challenges.

**Prerequisite(s):** Upper Division standing or Instructor Consent

**Grading:** Graded

*GLST 164 - Advanced Seminar in Global Citizenship*

3 unit(s)

Designed to encourage and inspire students to develop their own understanding of the concept of global citizenship and to develop informed perspectives related to concerns of the global community. Students will be asked to consider the impact they may have, as well as their individual and collective responsibilities, as global citizens, within their local, national, and global communities.

**Prerequisite(s):** Upper Division Standing or Instructor Consent

**Grading:** Graded

*GLST 167 - Changing Ecologies of Globalization*

3 unit(s)

Environmental and human issues and challenges 1492 to present. Global environmental shifts & relationship to social, demographic, cultural, political change. Human interaction with natural environment.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of WST; completion of Core GE; Upper division standing

**Corequisite(s):** GEOG 100W (if not already completed)

**Grading:** Graded

*GLST 179 - Capstone Seminar in Global Studies*

3 unit(s)

Course is designed for majors to help them to gain coherence in their theoretical knowledge, factual grounding,

international living, personal aptitudes, and career aspirations. It will also give them experience in interdisciplinary research through preparation of a major scholarly paper. The format includes discussion, group analysis, visiting professors, and individual work.

**Prerequisite(s):** Completion of GLST 1A, senior standing.

**Grading:** Graded

*GLST 187 - Special Topics*

3 unit(s)

Selected topics in Global Studies. Topics vary and will be announced each semester.

*Course may be repeated for credit for up to 15 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GLST 188 - Special Topics in International Experiences*

3 unit(s)

Study of modern history, government, immigration and impacts on development of diverse communities. Study of effects of immigration, economics, biases, and other factors on community development, as well as comparing and contrasting US and other cultural perspectives. Course offered as FLP in countries outside the U.S. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GLST 189 - Global Experience*

1-3 unit(s)

Required for Global Studies majors. Completion of Global Studies sponsored faculty-led international educational study, semester-long residence abroad, for formal study, research, service learning, or internship. Students will develop their programs with the advice and approval of the GLST advisor and the International Programs and Service office. Students may transfer in additional credits from approved study, with prior approval of the GLST advisor.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Completion of GLST 1A, junior standing.

**Grading:** Credit/No Credit

*GLST 192 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

# Department of History

**Office:** Dudley Moorhead Hall 134

**Telephone:** 408-924-5500

**Email:** [history@sjsu.edu](mailto:history@sjsu.edu)

**Website:** [www.sjsu.edu/history](http://www.sjsu.edu/history)

## Professors

Ruma Chopra  
Glen Gendzel, Chair  
Libra Hilde  
Patricia Evridge Hill  
Mary Pickering  
Jonathan P. Roth

## Associate Professors

Xiaojia Hou  
Wendy Rouse, Coordinator; Social Science Teacher Preparation

## Assistant Professors

Alberto Garcia  
Katharine Olson

# Overview

History provides the tools to understand the world and to make sense of it in the past, present, and future. The SJSU Department of History offers undergraduate and graduate programs that teach our students to read carefully, compare sources, make judgments, and communicate persuasively using evidence-based research. Graduates of our programs often become teachers, but most work in other fields such as law, journalism, the arts, museums, libraries, archives, media, non-profits, consulting, government, and every field of business. Internships are available and Phi Alpha Theta, the History honors society, sponsors academic and social activities for our students. The Social Science Teacher Preparation (SSTP) program helps prepare students for teaching careers. At the graduate level, our primary fields of study are U.S. history, European history, and World history. Many of our MA graduates teach at local middle schools, high schools, and community colleges. Our faculty and students conduct research that draws on the special resources of the MLK Library as well as outstanding local archives such as History San José, the California History Center at De Anza College, the Hoover Institution at Stanford University, and the Bancroft Library at the University of California, Berkeley.

# Honors Program in History

A student may qualify for admission to the History Department honors program provided he or she is a history major or minor or a Social Science major who has completed 15 upper division units in history. To apply to History Honors the student must have an overall GPA of 3.0, a GPA of 3.5 for all history upper division courses, or the permission of the chair. If accepted, qualified seniors must complete one of the following: HIST 221, HIST 230, HIST 240, HIST 241, HIST 272, HIST 274, HIST 276, HIST 280, HIST 283, or HIST 288, with a grade of "A" or "B" or the equivalents.

## Undergraduate

### History & Social Science Teacher Preparation (SSTP), BA (Double BA)

The double major in History and in Social Science Teacher Preparation (SSTP), offered by the Department of History, is ideal for students considering a teaching career. Middle and high school social science teachers typically teach survey courses in both United States and World History. Future social science teachers would therefore benefit from acquiring the in-depth historical content knowledge and historical thinking skills of a History BA. But social science teachers at the secondary level must often teach economics, government, geography, or ethnic studies as well. Students who double major in History and SSTP will therefore benefit from the breadth of courses in the SSTP program and its emphasis on the practical elements of teaching, including how to engage students in the classroom and how to create and maintain effective learning environments. Both majors can be completed in four years and will provide subject matter preparation for a single subject teaching credential program.

- Program Learning Outcomes: History, BA and Social Science, BA

#### Summary of Degree Units

University Graduation Requirements	38
Major Core Requirements	15
History Requirements	34
SSTP Requirements	27
University Electives	6
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

#### University Requirements (38 units)

#### Core Lower Division General Education (33 units)



Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Majors Requirements (76 units)

### Lower Division Major Requirements (15 units)

- HIST 1A - World History to 1500 3 unit(s)
- HIST 1B - World History from 1500 3 unit(s)
- HIST 99 - History Fundamentals 3 unit(s)

### Complete One Sequence From:

#### African American Studies

- AFAM 2A - African Americans and the Development of America's History and Government 3 unit(s) (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 unit(s) (M7)

#### Asian American Studies

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## US History

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## American People

- HIST 20A - History of the American People 3 *unit(s)* (US1)
- HIST 20B - History of the American People 3 *unit(s)* (US1)

## Chicana and Chicano Studies

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M12)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M12)

## Upper Division Requirements- History (34 units)

*\*Students who fulfill SJSU Studies Area S with HIST 188 and/or SJSU Studies Area V with HIST 153 or HIST 155 will complete the History major with 32 or 33 upper-division units.*

- HIST 100W - History Writers' Workshop 3 *unit(s)* (Z)
- SOCS 195 - Social Science Teacher Preparation 3 *unit(s)*

## Field of Study Courses (28 units)

*Upper-division History courses are divided into 4 fields of study: Ancient & Medieval, Modern Europe, United States, and World. 28 units of upper-division courses must include 2 from one field, 2 courses from a second field, 1 course from a third field, and 2 from any field for a total of 7 courses. Among those 7 courses, double-major students must select HIST 189A, HIST 189B, at least 2 Advanced Topics, and at least 2 pre-1750 courses. Consult History advisor for details.*

- HIST 189A - California History to 1900 4 *unit(s)* (US3)
- HIST 189B - California History Since 1900 4 *unit(s)* (US3)

## Upper Division Requirements- SSTP (27 units)

*\*\*These 9 courses are separate and distinct from the History BA requirements.*

- ECON 109 - Analysis of Economic Issues for Teachers 3 *unit(s)*
- CCS 185 - Teaching in a Diverse Society 3 *unit(s)*
- POLS 101 - American Government for Teachers 3 *unit(s)*
- RELS 191 - Religion in America 3 *unit(s)* (S)
- SOCI 143 - Feminist Perspectives on Gender and Education 3 *unit(s)*
- SOCI 177 - Sociology of Education 3 *unit(s)*
- SOCS 137 - California History for Teachers 3 *unit(s)*

- SOCS 138 - US History for Teachers 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)

## University Electives (6 units)

## Total Units Required (120 units)

# History, BA

Courses offered under this program by the Department of History are planned for those who wish a general liberal education, for those who want a broad foundation for any one of the social sciences, for those who desire advanced degrees in the field of history, and for those who wish to secure the teaching credential.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	38
Major Requirements	48-50
University Electives	32-34
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (48-50 units)

### Lower Division Major Requirements (15 units)

- HIST 99 - History Fundamentals 3 unit(s)

### Complete One Sequence From:

#### World History

- HIST 1A - World History to 1500 3 unit(s)
- HIST 1B - World History from 1500 3 unit(s)

#### Western Civilization

- HIST 10A - Western Civilization 3 unit(s) (D2)
- HIST 10B - Western Civilization 3 unit(s) (D2)

### Complete One Sequence From:

## US History

6 units of the GE requirement can be fulfilled by choosing the HIST 15 and POLS 15 courses among the major requirement.

- HIST 15 - Essentials of U.S. History 3 unit(s) (M12)
- POLS 15 - Essentials of U.S. & California Government 3 unit(s) (M11)

## American People

- HIST 20A - History of the American People 3 unit(s) (US1)
- HIST 20B - History of the American People 3 unit(s) (US1)

## Upper Division Major Requirements (33-35 units)

Students who fulfill SJSU Studies Area S with HIST 188 and/or SJSU Studies Area V with HIST 153 or HIST 155 will complete the major with 33 or 34 upper-division units and thus will need additional upper-division courses to meet the minimum University graduation requirement of 40 upper-division units. Such students should take an additional upper-division History course.

- HIST 100W - History Writers' Workshop 3 unit(s) (Z)
- HIST 102 - Historiography 4 unit(s)
- Field of Study Courses 26-28 unit(s)

*Upper-division History courses are divided into 4 fields of study: Ancient & Medieval, Modern Europe, United States, and World. 25-28 units of upper-division courses must include 2 from one field, 2 courses from a second field, 1 course from a third field, and 2 from any field for a total of 7 courses. Among those 7 courses, students must select at least 2 Advanced Topics and at least 2 pre-1750 courses. Consult History advisor for details.*

## University Electives and/or Minor (32-34 units)

Minor recommended, but not required; consult history advisor.

## Total Units Required (120 units)

A checklist of requirements is available in department office.

## **Social Science, Preparation for Teaching (Single Subject), BA**

This major is designed for students interested in teaching history, political science (government), economics, or social science in high school or middle school. The following course work satisfies San José State University's requirements for a BA in Social Science. The BA Social Science Preparation for Teaching, offered by the Department of History, is approved as subject matter preparation for a single subject credential by the California Commission on Teacher Credentialing (CCTC). Individuals who do not complete an approved degree program, or individuals seeking a single subject credential in subject areas not listed must pass all portions of the appropriate Commission-approved subject matter examination(s).

Minimum grade point average (GPA) of at least 2.87 and completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Requirements 62-64

University Electives 18-20

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (33 units)

Of the 39 units required by the university, 6 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Consult major advisor for department recommended coursework to meet GE requirement.**

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (62-64 units)

### Lower Division (15 units)

- HIST 1A - World History to 1500 3 *unit(s)*
- HIST 1B - World History from 1500 3 *unit(s)*
- HIST 99 - History Fundamentals 3 *unit(s)*

### Complete One Sequence

Complete one sequence of U.S. History and Government courses from:

#### U.S. History and Government

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

#### African-American US History & Government

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

#### Chicana and Chicano US History and Government

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

#### Asian American US History and Government

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## Upper Division Core (47-49 units)

- CCS 185 - Teaching in a Diverse Society 3 unit(s)
- ECON 109 - Analysis of Economic Issues for Teachers 3 unit(s)
- HIST 100W - History Writers' Workshop 3 unit(s) (Z)
- HIST 189A - California History to 1900 4 unit(s) (US3)
- HIST 189B - California History Since 1900 4 unit(s) (US3)
- POLS 101 - American Government for Teachers 3 unit(s)
- RELS 191 - Religion in America 3 unit(s) (S)
- SOCI 143 - Feminist Perspectives on Gender and Education 3 unit(s)
- SOCS 137 - California History for Teachers 3 unit(s)
- SOCS 138 - US History for Teachers 3 unit(s) (S)
- SOCS 139 - World History for Teachers 3 unit(s) (V)
- SOCS 177 - Sociology of Education 3 unit(s)
- SOCS 195 - Social Science Teacher Preparation 3 unit(s)
- Two Upper Division U.S. History Courses (approved by Social Science Teacher Preparation Advisor) 6-8 unit(s)

## University Electives (18-20 units)

## Total Units Required (120 units)

## Master

### History, History Education Concentration, MA

The Master of Arts in History, Concentration in History Education, offered by the Department of History, is designed for middle and secondary school social science teachers. The curriculum broadens the candidate's knowledge of U.S. and World History. In addition, the program increases the candidate's academic proficiency in history subjects and his or her professional competence in special areas of interest within the field of history and social science education. This is a terminal degree. Candidates who plan to pursue more advanced graduate training in history should apply to the regular Master's degree program outlined above. Please refer to the Department of History website for the most current information.

## Requirements for Admission to Classified Standing

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA in History, Concentration in History Education program. Applicants must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing.

Admission to classified standing for the MA in History, Concentration in History Education requires that the student has completed a Single Subject Social Science Teaching Credential, has completed a BA in History or passed the Social Science CSET Examination.



Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Advancement to Candidacy

At least one semester before a candidate expects to graduate, the student must complete the Advancement to Candidacy Application delineating the entire degree program, that is, the courses that the student has completed or expects to complete toward the MA. The candidate must submit the form to the Graduate Advisor and then to Graduate Studies for final approval. Through this procedure, the student's entire program will be examined to determine whether it complies with all departmental and university requirements for the degree, including the university requirement for demonstrated competency in written English.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

Procedures for approval for the MA in History, Concentration in History Education are the same as for the general Masters's degree except the Concentration does not require a foreign language.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Department Graduation Requirements

Following admission to the university and to the department, the student should consult the history department website and speak with an advisor regarding degree requirements and a proposed degree program. Candidates must complete 20 units of course work in one of the following fields of study: United States History, Modern European History, or World History. Eight units may be taken in any field of history. Two units will focus on professional development. U.S. History specialists may apply one HIST 220 - Advanced Colloquium in World History to their primary field, and World History specialists may apply one U.S. History Colloquium (HIST 210) to their primary field. Five courses and the 2 units of professional development --a total of 22 units-- must be completed at the graduate level. All students must maintain a 3.0 average to remain in the program and pass the comprehensive examination (Plan B) to receive the degree. Procedures for approval for the MA in History, Concentration in History Education are the same as for the general Masters's degree except the Concentration does not require a foreign language.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

### **Plan B (Comprehensive Examination)**

In addition to the course of study outlined above, graduate students must take and pass a comprehensive examination (Plan B). On the exam, the student is expected to demonstrate considerable breadth and depth of knowledge, a familiarity with historiographical issues, and adherence to acceptable rules of grammar, spelling, and literary style in presentation. The examination will be scheduled toward the end of the fall and spring semesters, and students must pass the examination within three attempts or no degree will be awarded.

## **Master's Requirements (30 units)**

### **Professional Development (2 units)**

- HIST 298 - Special Study 1-6 unit(s) *(Should be completed during student's first semester)*

### **Colloquia (8-12 units)**

#### **European History Primary Field (8 units)**

- HIST 209 - Colloquium in Ancient and Medieval Europe 4 unit(s) *(GWAR)*
- HIST 211 - Advanced Colloquium in Modern Europe 4 unit(s) *(GWAR)*

#### **United States History Primary Field (12 units)**

- HIST 210A - Advanced Colloquium United States History 4 unit(s)
- HIST 210B - Advanced Colloquium United States History 4 unit(s) *(GWAR)*
- HIST 210C - Advanced Colloquium United States History 4 unit(s)

#### **World History Primary Field (8 units)**

- HIST 220 - Advanced Colloquium in World History 4 unit(s)

### **Seminars (8 units)**

### **Electives (8-12 units)**

*Graduate or Upper Division courses selected in consultation with the Graduate Advisor*

## **Total Units Required (30 units)**

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 8.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## History, MA

While designed to strengthen students' depth and breadth of historical knowledge, the MA in History requires those who study the past at an advanced level to move beyond the acquisition of content knowledge and develop the more complex skills and habits of mind associated with historiography-including synthesis, analysis, and evaluation. This course of study serves those preparing to teach history at community colleges, those seeking preparation for the doctorate, museum curators, historical archivists, historians working in governmental agencies, and secondary teachers choosing a traditional Master's degree.

## Requirements for Admission to Classified Standing

Prospective students must apply separately to the university to obtain approval for graduate-level admission and to the department to obtain admission into the MA in History program. Applicants must meet all the university admission requirements as outlined in this catalog and stated in subsequent policy changes (this refers both to admission and graduation procedures). Students can be admitted in either classified or conditionally classified standing. Admission to classified standing for the MA - History requires that the undergraduate preparation of the applicant be comparable to that of the BA degree at San José State University. This preparation must include one upper-division or graduate course in historical method and a course in historiography. The applicant who does not have this preparation must remove all deficiencies. Students who have a baccalaureate degree in a field other than history will be required to complete up to 16 units in upper-division or graduate history courses. Units thus taken will not be counted toward the minimum 30 units required for the MA - History. Requirements and policies change; please refer to the Department of History website for the most current information.

## Requirements for Admission to Conditionally Classified Standing

A student who does not meet all requirements for admission in classified standing for the MA - History may be admitted in conditionally classified status. The graduate advisor will list on the admissions notification all deficiencies and courses that must be taken. Upon completing these requirements, the student must file a petition for a change of status to classified standing.

## University Requirements

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Requirements for Advancement to Candidacy

At least one semester before a candidate expects to graduate, the student must complete the Advancement to Candidacy Application delineating the entire degree program, that is, the courses that the student has completed or expects to complete toward the Master's. The candidate must submit the form to the Graduate Advisor and then to GAPE for final approval. Through this procedure, the student's entire program will be examined to determine whether it complies with all departmental and university requirements for the degree, including the university requirement for demonstrated competency in written English.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Department Graduation Requirements

Following admission to the university and the department, the student should consult the history department website and speak with the graduate advisor regarding degree requirements and a proposed degree program. Candidates must complete 20 units of course work in one of the following fields of study: United States History, European History or World History. Eight units may be taken in any field of history. Two units will focus on professional development. Specialists in European History and United States History may apply one World History Colloquium (HIST 220) to their primary field, and World History specialists may apply one U.S. History Colloquium (HIST 210) or one European History Colloquium (HIST 209 or HIST 211) to their primary field. Five courses and the 2 units of professional development --a total of 22 units-- must be completed at the graduate level. All students must maintain a 3.0 GPA average to remain in the program and either pass the comprehensive examination or complete a thesis to receive the degree.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

#### **Plan B (Comprehensive Examination)**

In addition to the course of study outlined above, graduate students must take and pass a comprehensive examination (Plan B). On the exam, the student is expected to demonstrate considerable breadth and depth of knowledge, a familiarity with historiographical issues, and adherence to acceptable rules of grammar, spelling and literary style in presentation. The examination will be scheduled toward the end of the fall and spring semesters, and students must pass the examination within three attempts or no degree will be awarded.

#### **Plan A (Thesis)**

In some exceptional cases, students may substitute a thesis (Plan A) for the comprehensive examination. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. A thesis option will be considered only upon the nomination of a professor, who

agrees to serve as the first reader. The student must demonstrate to the nominating professor, in a written proposal, that he or she is capable of completing a thesis, both in terms of research skills and writing ability, and that he or she has sufficient time to undertake a major research and writing project. In addition, the proposed project must have intrinsic historical value. Demonstrating these points does not obligate a professor to nominate or to serve as a first reader, and no reason need be given to a student for declining to supervise a thesis. Permission to write a thesis is also contingent on finding two other professors willing to serve as second and third readers; they also serve entirely at their own discretion. Finally, the department's graduate studies committee must approve all thesis proposals. After all three readers have signed the thesis, the candidate must submit it to the University for final approval.

A thesis committee has the option of terminating the thesis option if the candidate does not submit an acceptable thesis within five semesters. In that situation, the student will be required to take the Plan B comprehensive examination as the program culminating experience.

### Language Requirement

All candidates for general MA in History must demonstrate competency in one foreign language. The sole exception are students whose primary field is U.S. History, who may, if they do not wish to meet the language requirement, take two history graduate-level courses in substitution.

The language competency requirement may be met in four ways:

1. Through examination by a history faculty member with expertise in your language, the exam will be a translation of approximately 500 words to be completed in two hours with a dictionary allowed.
2. By taking two years of a foreign language at a university or community college. An average grade of "C" or better must have been attained, and the coursework completed within five years of admission to the university.
3. If your primary concentration is European History, you may also fulfill this requirement by taking one year of Greek and one year of Latin.
4. By taking and passing the Educational Testing Service Graduate Foreign Language Exam.

## Master's Requirements (30 units)

### Professional Development (2 units)

- HIST 298 - Special Study 1-6 unit(s) *(Should be completed during student's first semester)*

### Colloquia (8-12 units)

#### European History Primary Field (8 units)

*HIST 209 and HIST 211 may be repeated for credit*

- HIST 209 - Colloquium in Ancient and Medieval Europe 4 unit(s) *(GWAR)*
- HIST 211 - Advanced Colloquium in Modern Europe 4 unit(s) *(GWAR)*

#### United States History Primary Field (12 units)

- HIST 210A - Advanced Colloquium United States History 4 unit(s)
- HIST 210B - Advanced Colloquium United States History 4 unit(s) *(GWAR)*
- HIST 210C - Advanced Colloquium United States History 4 unit(s)

## World History Primary Field (8 units)

- HIST 220 - Advanced Colloquium in World History 4 unit(s) (*HIST 220 may be repeated for credit*)

## Seminars (8 units)

*Graduate or Upper Division courses selected in consultation with the Graduate Advisor.*

## Additional Graduate or Upper Division Courses (8-12 units)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 8.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Ancient and Medieval History Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

- HIST 10A - Western Civilization 3 unit(s)
- HIST 10B - Western Civilization 3 unit(s)
- Courses in upper division Ancient and Medieval History 12 unit(s)

### Asian History Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (18 units)

- HIST 1A - World History to 1500 3 unit(s)
- HIST 1B - World History from 1500 3 unit(s)
- Courses in upper division Asian History 12 unit(s)

Total Units Required (18 units)

## European History Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (18 units)

- HIST 10A - Western Civilization 3 *unit(s)* (D2)
- HIST 10B - Western Civilization 3 *unit(s)* (D2)
- Courses in upper division European History 12 *unit(s)*

Total Units Required (18 units)

## General History Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (18 units)

- Upper division electives from two areas exclusive of lower division (breakdown of requirements available in department office) 12 *unit(s)*

Complete One Sequence From:

World History

- HIST 1A - World History to 1500 3 *unit(s)*
- HIST 1B - World History from 1500 3 *unit(s)*

Western Civilization

- HIST 10A - Western Civilization 3 *unit(s)* (D2)
- HIST 10B - Western Civilization 3 *unit(s)* (D2)

Total Units Required (18 units)

## Jewish Studies Minor

**Overview**

In the Jewish Studies Program, students explore Jewish and Israeli culture, history, literature, religion, politics, philosophy, languages, and art. The curriculum fosters critical thinking within and across disciplines and, as is true with any good learning, seeks to enable students to make the leap from knowledge to commitment and action. An interdepartmental minor in Jewish studies includes courses offered by six departments within the College of Humanities and Arts and the College of Social Sciences: the Departments of History, Religious Studies, English and Comparative Literatures, Foreign Languages, Art History, Political Science, Geography and Global Studies. Scholarships are awarded each semester to outstanding students enrolled in the Jewish studies minor program.

**University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (15 units)****Required Courses (9 units)**

- JWSS 90 - Bible History and Literature *3 unit(s)*
- JWSS 111 - Special Topics in Jewish Studies *3 unit(s)*
- JWSS 126 - Holocaust Literature *3 unit(s)*

**Elective Courses (6 units)**

Complete 6 units from JWSS courses or other courses in consultation with the Jewish Studies Advisor.

**Total Units Required (15 units)****Latin American History Minor****University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (18 units)**

- HIST 1A - World History to 1500 *3 unit(s)*
- HIST 1B - World History from 1500 *3 unit(s)*
- Courses in upper division Latin American History *12 unit(s)*

**Total Units Required (18 units)****Military History Minor****University Graduation Requirements**



To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (16 units)

- Courses in upper division Military History 16 unit(s)

## Total Units Required (16 units)

# United States History Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (16 units)

- Courses in upper division U.S. History 16 unit(s)

## Total Units Required (16 units)

### *HIST 1A - World History to 1500*

#### 3 unit(s)

Introduces students to the world's regions and civilizations as interconnected entities. HIST 1A examines the growth and development of traditional civilizations to 1500. HIST 1B surveys the transformation of civilizations since 1500.

*Satisfies D2: Comparative Systems.*

**Grading:** Graded

### *HIST 1B - World History from 1500*

#### 3 unit(s)

Introduces students to the world's regions and civilizations as interconnected entities. HIST 1A examines the growth and development of traditional civilizations to 1500. HIST 1B surveys the transformation of civilizations since 1500.

*Satisfies D2: Comparative Systems.*

**Grading:** Graded

### *HIST 10A - Western Civilization*

#### 3 unit(s)

History and culture of Europe; social and political structures; roles of individuals and groups; relationships among ideas, institutions, society and culture; to 1648.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*HIST 10B - Western Civilization*

*3 unit(s)*

History and culture of Europe; social and political structures; roles of individuals and groups; relationships among ideas, institutions, society and culture; 1648 to present.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*HIST 15 - Essentials of U.S. History*

*3 unit(s)*

Treatment of essentials of U.S. history. Satisfies the American Institutions requirement in U.S. history (US1) and the Core GE requirement in Social Sciences: Comparative Systems, Cultures, and Environments (D2).

*Satisfies D2 + US1: Comparative Systems and American History*

**Grading:** Graded

*HIST 20A - History of the American People*

*3 unit(s)*

Survey of continuity and change in society, culture, institutions and environment. Origins through slavery conflict. American Institutions: US1

*Satisfies American Institutions US1: US History*

**Grading:** Graded

*HIST 20B - History of the American People*

*3 unit(s)*

Survey of continuity and change in society, culture, institutions and environment. Emergence of modern society and world power status. American Institutions: US1

*Satisfies American Institutions US1: US History*

**Grading:** Graded

*HIST 50 - Historical Process: Understanding Historical Reasoning*

*3 unit(s)*

Modes and skills of practical logic and reasoning through study of historical method. Historical problems examined to that end.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better  
**Grading:** Graded

*HIST 92 - Int'l Program Studies*

1-12 unit(s)  
**Grading:** Mixed Grading

*HIST 99 - History Fundamentals*

3 unit(s)  
An introduction to the skills, technology and technique of history reading, writing and research. It is a prerequisite to HIST 100W. Sophomores and transferring juniors are required to take this course.

**Prerequisite(s):** Open to History and Social Science Teacher Preparation majors only; lower or upper division standing.  
**Grading:** Graded

*HIST 100W - History Writers' Workshop*

3 unit(s)  
Development of skills required for the art and practice of historical research and writing. Library research, oral reports and written exercises dealing with a variety of historical problems.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** HIST 99 required or Department permission. A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: History majors only. Or Graduate or Postbaccalaureate level.  
**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*HIST 102 - Historiography*

4 unit(s)  
Critical study of the writings of great historians.

**Prerequisite(s):** HIST 99 and HIST 100W.  
**Grading:** Graded

*HIST 103 - History of the Modern Middle East*

4 unit(s)  
Survey from late 18th century to the present. Topics include imperialism and dissolution of the Ottoman Empire; World War I, the Mandate System, and the growth of nationalism; secularism versus fundamentalist Islam; formation of the state of Israel and the Israeli-Palestinian conflict; the Iranian Revolution; U.S.-Middle East relations and the quest for oil; the changing status of women.

**Prerequisite(s):** Upper Division Standing or Instructor Consent  
**Grading:** Graded

*HIST 104 - Advanced Topics in Ancient History*

4 unit(s)

An investigation in depth of selected periods or topics in Ancient history. Repeatable for credit when topic changes up to 8 units.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 109A - History of China*

4 unit(s)

Traditional society from earliest times to 1800.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*HIST 109B - History of China*

4 unit(s)

China's revolutions and ongoing modernization.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 110A - History of Japan*

4 unit(s)

Development of state and society from prehistoric times to 1750. Major topics include the controversy over the origins of the Japanese people; the adaptation of Chinese cultural, religious, and political models; the role of the emperor in state formation; the classical era of Japanese culture during the Heian period; the rise of the samurai elites; and the development of military rule under the shoguns.

**Prerequisite(s):** Upper division standing or consent of instructor.

**Grading:** Graded

*HIST 110B - History of Japan*

4 unit(s)

Since 1750 emphasizing the process of modernization.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 111 - Special Topics in Jewish Studies*

3 unit(s)

Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit under different subtitles.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*HIST 112 - Ancient West to 500 BCE*

*4 unit(s)*

Political, social and cultural history of the Ancient West (Europe, the Middle East and North Africa, from ca. 15,000 BCE to 500 BCE.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 113A - Economic History of the United States*

*4 unit(s)*

Economic analysis of U.S. and Canadian history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HIST 113B - Economic History of Europe*

*4 unit(s)*

Economic analysis of European history to the mid-20th century and its application to understanding the causes, patterns and consequences of economic development.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HIST 114 - The Ancient West, 500 BCE-400 CE*

*4 unit(s)*

Political, social, and cultural history of the Ancient West (Europe, the Middle East, and North Africa), from ca. 500 BCE to 400 CE.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 121A - Medieval Worlds, 400-1000*

*4 unit(s)*

This course surveys European Medieval History from the late fourth century through the first millennium. It examines the political, economic, social, cultural, and religious changes that constituted the transformation of the antique world into a unique "European" civilization.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 121B - Medieval Worlds, 1000-1500*

4 unit(s)

From 1000 - 1500 emphasizing growth of papal power, commercial revolution and revival of urban life, twelfth century Renaissance, interactions between the European, Byzantine, and Islamic worlds, and late medieval transformations leading to modernity

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 122 - The Renaissance and Reformation*

4 unit(s)

The European world in transition from 1400-1600.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*HIST 124 - Early Modern Europe*

4 unit(s)

The European world in transition from 1580 to 1750. A continuation of HIST 122, exploring the central place of the princely court in the transformation of politics, religion, art, culture, science, technology and philosophy. Introduction to the Enlightenment.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*HIST 126 - Advanced Topics in Medieval History*

4 unit(s)

An investigation in depth of selected periods or topics in Medieval history. Repeatable for credit when topic changes for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Departmental consent required.

**Grading:** Graded

*HIST 132 - Advanced Topics in World History*

4 unit(s)

Aspects of world history under various topics. Repeatable for credit when topic changes for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 143 - Europe, 1750-1900*

4 unit(s)

Major political, economic, social and cultural themes of European history from the Enlightenment to 1900.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 144 - Europe, 1900-1945*

*4 unit(s)*

A history of political, economic, social and cultural developments in Europe during the era of the two world wars.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 145 - Europe and the World Since 1945*

*4 unit(s)*

Political, economic and social developments since World War II, with emphasis on Europe.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 146 - Advanced Topics in European History*

*4 unit(s)*

An investigation in depth of selected periods or topics in European history. Repeatable for credit when topic changes up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 153 - History of Women in Europe*

*3 unit(s)*

Changes in women's private and public roles in diverse national, class, religious, ethnic and racial contexts from Ancient Greece to Modern Europe.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HIST 155 - 20th Century World*

*3 unit(s)*

Global perspectives on a century of scientific progress that also saw the violent deaths of millions, with emphasis on the decline of traditional imperialism and the ideological contention that led to World War II and the Cold War.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HIST 162 - Colonial Latin America*

*4 unit(s)*

The course covers the colonial administration and society of the Spanish and Portuguese colonies in the New World. I also look at social, economic, and political conditions of the Iberian Peninsula and of the Amerindian empires on the eve of the conquest. The course concludes with an overview of the independence movements in Hispanic America and Brazil.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 163 - Modern Latin America, 1800-Present*

*4 unit(s)*

Latin America since 1800. Focus on major political changes, such as independence, wars, popular uprisings, and systems of government. Also economic and cultural affairs, especially when they disrupt existing societies, and outstanding leaders who charted their nations' destinies.

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 167 - Advanced Topics in Latin American History*

*4 unit(s)*

An investigation in depth of selected periods or topics in Latin American history. Repeatable for credit when topic changes up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*HIST 170 - Topics in American History*

*3 unit(s)*

An investigation in depth of selected periods or problems. American Institutions Requirement: US1 Repeatable for credit when topic changes.

*Satisfies American Institutions US1: US History*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** No credit for history majors or minors.



*HIST 170S - Topics in American History: American Identities and Institutions*

3 unit(s)

An investigation in depth of selected periods or problems. This topic focuses on historical relationships between social groups and the political, social, economic and cultural institutions they created.

*Satisfies SJSU Studies S + US1: Self, Society & Equality in the U.S. + American History*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HIST 171 - U.S. Constitutional & Legal History*

4 unit(s)

Origins and evolution of the United States Constitution and federal system from the American Revolution to the present.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HIST 173 - New World Encounters, 1400-1750*

4 unit(s)

Examines the first wave of European expansion, from 1400-1750, through the prism of cultural and religious interactions. Explores how Europeans, Africans, and Indians understood each other during European exploration, conquest, and colonization of the "New World".

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*HIST 174 - Colonial & Revolutionary America*

4 unit(s)

Investigates the socio-political development of British North America from the 1600s to the era of the American Revolution. Examines how mentalities, voluntary and involuntary immigration, demographic catastrophes, rebellions, and religious revivals shaped the British Atlantic.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*HIST 175 - Inventing America, 1800-1860*

4 unit(s)

The history of the United States from 1800-1860. Topics include the rise of democratic political culture, industrialization, the emergence of a market economy, pivotal changes in institutions such as the family and church and the redefinition of key American values.

**Prerequisite(s):** Upper division standing  
**Grading:** Graded

*HIST 176 - The Civil War and Reconstruction*

4 unit(s)

Course takes a topical approach, examining the political, social, economic, military, and ideological dimensions of the Civil War and Reconstruction. Focus will be on the war and its aftermath as a revolutionary experience rather than solely as a military struggle.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*HIST 177 - Industrial America, 1877-1920*

4 unit(s)

Economic, social, and political history from the end of Reconstruction to the achievement of women's suffrage. Topics include the triumph of industrial capitalism, labor conflict, women's suffrage, Populism/Progressivism, race/ethnicity, and World War I.

**Prerequisite(s):** Upper division standing or instructor consent  
**Grading:** Graded

*HIST 178 - Crash, Depression and War, 1920-1950*

4 unit(s)

The United States from the "Roaring Twenties" through the Great Crash, the Great Depression, the New Deal, World War II, the home front, the Atomic Age, and the beginning of the Cold War.

**Prerequisite(s):** Upper division standing or instructor consent  
**Grading:** Graded

*HIST 179 - Cold War America, 1950-Present*

4 unit(s)

Modern history of the United States since 1950 including the Cold War, the Korean and Vietnam wars, the Civil Rights Movement, postwar society, culture, economics and politics.

**Prerequisite(s):** Upper division standing or instructor consent  
**Grading:** Graded

*HIST 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** History majors or minors.  
**Grading:** Credit/No Credit

*HIST 181 - Advanced Topics in American History*

4 unit(s)

An investigation in depth of selected periods or topics in American history.

*Course is repeatable for credit when topic changes up to 12 units.*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*HIST 184 - Directed Reading*

1-4 unit(s)

Directed reading on a specific topic in history.

**Prerequisite(s):** History major/minor and instructor and department chair consent.

**Grading:** Credit/No Credit

*HIST 185 - LGBTQ+ History in the United States*

3 unit(s)

Students use an intersectional framework to examine LGBTQ+ history in the United States. The course emphasizes how the development of institutions and ideals, the formation of identities, and shifting contexts of equality and inequality have impacted LGBTQ+ people through time.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing (60 units or more) are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HIST 188 - History of Women in the United States*

3 unit(s)

A multi-faceted history of women in the United States from colonial times to the present. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

*Repeatable for credit.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*HIST 189A - California History to 1900*

4 unit(s)

Topics include Native American civilizations, Spanish discovery and missions, the Mexican era, the American conquest, the Gold Rush, Chinese immigration, the railroad, growth, development, politics and class conflict.

American Institutions Requirement: US3

*Satisfies American Institutions US3: California Government*

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** Satisfies American Institutions requirement in California government.

*HIST 189B - California History Since 1900*

*4 unit(s)*

Social, political, and economic history of California since 1900. American Institutions Requirement: US3

*Satisfies American Institutions US3: California Government*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

**Note(s):** Satisfies American Institutions requirement in California government.

*HIST 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*HIST 197 - Introduction to Public History*

*4 unit(s)*

Introduction to preservation and presentation of history to the community and to roles historians play in public agencies. Exploration of archives, museums and historic sites. Required for admission to Public History internship.

**Prerequisite(s):** Upper division standing or consent of instructor.

**Grading:** Graded

*HIST 199 - Public History Internship*

*3 unit(s)*

Supervised placement in historical organizations, public institutions and community agencies concerned with preservation of history. May be repeated for 6 unit maximum.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*HIST 200 - Graduate Methodology, Research and Writing*

*4 unit(s)*

An orientation to history graduate study focusing on the critical advanced writing, library, research and historiographical skills needed for success as a graduate student and professional historian. Includes an overview of current methodologies and trends in the field.

**Grading:** Graded

*HIST 209 - Colloquium in Ancient and Medieval Europe*

4 unit(s)

Intensive readings, discussions and reports on Ancient and Medieval Europe. For areas and field of emphasis see the schedule of classes. May be repeated when content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing or instructor consent

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 210A - Advanced Colloquium United States History*

4 unit(s)

Intensive readings, discussions, and reports on American history in the seventeenth and eighteenth centuries. Repeatable for credit once with different instructor.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing

**Grading:** Graded

*HIST 210B - Advanced Colloquium United States History*

4 unit(s)

Intensive readings, discussions, and reports on American history in the nineteenth century. Repeatable for credit once with different instructor.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 210C - Advanced Colloquium United States History*

4 unit(s)

Intensive readings, discussions, and reports on American history in the twentieth century. Repeatable for credit once with different instructor.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing

**Grading:** Graded

*HIST 211 - Advanced Colloquium in Modern Europe*

*4 unit(s)*

Intensive readings, discussions and reports. Topics have included the French Revolution, the Holocaust in Europe and issues of marginalization of gender and class during the modern period. May be repeated with different instructor or topic.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing or instructor consent

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 220 - Advanced Colloquium in World History*

*4 unit(s)*

Intensive readings, discussions and reports in Asian, African, European and North and South American history, in one of three eras: ancient and classical eras (before 1000), between 1000 and 1750 or since 1750. May be repeated with different instructor or topic.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing or instructor consent

**Grading:** Graded

*HIST 221 - Seminar in World History*

*4 unit(s)*

An intensive study of some area, problem or period in world history. Topics have included World War II, the Atlantic Economy, World Slavery, British Imperialism. Repeatable for up to 8 units when course content changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*HIST 230 - Seminar in Ancient and Medieval Europe*

*4 unit(s)*

An intensive study of some areas, problem or period in Ancient or Medieval Europe. Individual research with oral and written reports. May be repeated for up to 8 units with different instructor or topic.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 240 - Seminar in Pre-Twentieth Century Europe*

*4 unit(s)*

An intensive study of some area, problem or period in European history before 1900. Topics have included economic, social and gender differences in Industrial Europe and social theories of Max Weber. May be repeated when content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 241 - Seminar in Twentieth Century Europe*

*4 unit(s)*

An intensive study of some area or problem. Individual research with oral and written reports. Topics have included the Cold War, European diplomacy and international security.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 272 - Seminar in American Diplomatic History*

*4 unit(s)*

An intensive analysis of some chronological period, area or major problem in American diplomatic history. Individual research with oral and written reports.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 274 - Seminar in US Social & Cultural History*

*4 unit(s)*

Intensive study of some phase of American social, cultural, and/or intellectual history. Individual research with oral and written reports. Topics have included class, race, ethnic, and gender differences. May be repeated when content changes. Repeatable for up to 8 units when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** graduate standing or instructor consent.

**Grading:** Graded

*HIST 276 - Seminar in Early American History*

*4 unit(s)*

An intensive study of some phase in, or problem of, American history from colonial period through the Civil War. Topics have included American independence from British control, the development of the industrial North and the colonization of the West. May be repeated when content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 280 - Seminar in Recent American History*

*4 unit(s)*

An intensive study of some phase or problem in the period from the Civil War to the present. Individual research with oral and written reports. May be repeated when content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 283 - Seminar in California and Western History*

*4 unit(s)*

An intensive study of an area, phase or period of history associated with California or the West. Individual research with oral and written reports. May be repeated for credit when course content changes.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 288 - Seminar in the History of Women in the United States*



4 unit(s)

An intensive study of some phase of the history of women in the United States. Individual research with oral and written reports.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*HIST 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*HIST 298 - Special Study*

1-6 unit(s)

Advanced individual research.

**Prerequisite(s):** Instructor consent and approval by graduate advisor.

**Grading:** Mandatory CR/NC/RP

**Note(s):** More than 3 units only in areas where graduate courses not normally offered.

*HIST 299 - Master's Thesis or Project*

3-6 unit(s)

Open only to approved master's candidates in history. Reserved for students under Plan A.

**Grading:** Mandatory CR/NC/RP

*HIST 1290R - Culminating Experience Supervision*

1 unit(s)

This course is offered in special sessions for 1 unit. It is required of, and limited to, graduate students who have an outstanding RP grade in a preceding semester in a project or thesis class. If one has an outstanding RP, this course must be taken unless the student is enrolled in any other course. By outstanding, it is meant that the RP grade has not been changed to any other grade, including a CR or NC. The RP grade in the project or thesis course remains on the official record until a culminating memo has been submitted by the graduate advisor to the Office of Graduate Admissions & Program Evaluations and the course instructor of the class in which an RP was received has petitioned for a grade change to CR. This course receives no degree credit and therefore cannot be used on the candidacy form or to fulfill graduation requirements. It is repeatable up to 12 times.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** HIST 299

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit

*JWSS 10A - Elementary Hebrew*

3 unit(s)

Basic structure of the language in the context of culture.

**Grading:** Graded

*JWSS 10B - Elementary Hebrew*

3 unit(s)

Basic structure of the language in the context of culture.

**Prerequisite(s):** HEBR 10A (or equivalent).

**Grading:** Graded

*JWSS 15A - Intermediate Hebrew*

3 unit(s)

Developing speaking skills.

**Prerequisite(s):** HEBR 10A and HEBR 10B (or equivalent).

**Grading:** Graded

*JWSS 15B - Intermediate Hebrew*

3 unit(s)

Developing speaking skills.

**Prerequisite(s):** HEBR 10A and HEBR 10B (or equivalent).

**Grading:** Graded

*JWSS 90 - Bible History and Literature*

3 unit(s)

The Bible in context of its history, literary sources and as a reflection of Jewish and Christian traditions. Motifs and themes in light of their original audience, historic usage and contemporary development.

*Satisfies C2: Letters*

**Grading:** Graded

*JWSS 102A - Advanced Hebrew*

3 unit(s)

Readings, grammar, discussion and composition.

**Prerequisite(s):** Four semesters of college Hebrew (or equivalent).

**Grading:** Graded

*JWSS 102B - Advanced Hebrew*

3 unit(s)

Readings, grammar, discussion and composition.

**Prerequisite(s):** 12 units of college Hebrew (or equivalent).

**Grading:** Graded

*JWSS 111 - Special Topics in Jewish Studies*

3 unit(s)

Special Topics in Jewish Studies. Topics vary and will be announced each semester. Repeatable for credit under different subtitles. Repeatable for credit when topic changes.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*JWSS 126 - Holocaust Literature*

3 unit(s)

Survey of literature written by survivors or witnesses of the Holocaust, the destruction of European Jewry during World War II, focusing upon diaries, memoirs, fiction, and occasionally poetry and drama. Writers may include Elie Wiesel, Primo Levi, Anne Frank, Charlotte Delbo.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*JWSS 144 - Middle Eastern Politics*

4 unit(s)

Study of unfolding events in the Middle East. Themes include: the failure of democratic movements, nuclear proliferation and terrorism, US foreign policy towards the region, the Israel-Palestine conflict, urbanization, gender and human rights.

**Grading:** Graded

*JWSS 180 - Individual Studies*

1-3 unit(s)

Directed studies in relevant fields not covered by courses offered.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Instructor consent and program coordinator.

**Grading:** Credit/No Credit

*SOCS 137 - California History for Teachers*

3 unit(s)

Interdisciplinary course to prepare future teachers to teach California history from a wide range of social science perspectives. Includes the diverse history of California's people, politics, and cultures and their impact on the nation and the world. Create and implement teaching strategies for use in classrooms.

**Grading:** Graded

**Note(s):** Not acceptable for Economics majors, except double majors; acceptable for Economics minors.

*SOCS 138 - US History for Teachers*

3 unit(s)

Interdisciplinary course to prepare future teachers to teach the United States history from a wide range of social science perspectives. Study of the diverse history of the people, politics, and cultures of the US while examining movements for social justice. Students create and implement engaging strategies for use classrooms. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SOCS 139 - World History for Teachers*

3 unit(s)

This interdisciplinary course is intended to prepare future teachers to teach world history from a wide range of social science perspectives. Students will compare the diverse ideas, values, and histories of various world cultures. Students will create and implement engaging teaching strategies for use in their own future classrooms. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** HIST 15 and POLS 15 or AAS 33A and AAS 33B. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SOCS 195 - Social Science Teacher Preparation*

3 unit(s)

In this capstone course Social Science Teacher Preparation majors will synthesize their learning about the theory and practice of Social Science education through the completion of a major portfolio project. Required for majors.

**Prerequisite(s):** SOCS 177; completed graduation application; or instructor consent.

**Grading:** Graded

*SSED 184I - Student Teaching for Social Science Individualized Interns*

2-4 unit(s)

Supervised student teaching in social science class(es) in the public school where the student is employed as an Individualized Intern. Repeatable for a total of 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Admission to Single Subject Credential Program; social science advisor and Single Subject Coordinator consent.

**Grading:** Credit/No Credit

*SSED 184Y - Student Teaching II - Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom, teaching lab or field teaching in appropriate single subjects, grades K-12 and related teaching activities/seminar.

**Prerequisite(s):** SSED 378 with a passing grade of "B" or better (B- not acceptable) and joint approval of major and Education departments.

**Grading:** Credit/No Credit

*SSED 184Z - Student Teaching III - Classroom Teaching*

4-6 unit(s)

See SSED 184Y for course description.

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*SSED 378 - Social Science Methods*

3 unit(s)

For prospective secondary teachers who plan to teach in the social science field. A prerequisite to student teaching.

**Grading:** Graded

## Department of Justice Studies

**Office:** McQuarrie Hall 524

**Telephone:** 408-924-2940 (Voice); 408-924-2953 (Fax)

**Email:** justice-studies@sjsu.edu

**Website:** sjsu.edu/justicestudies

### Professors

Yoko Baba

Alessandro De Giorgi, Justice Studies Program Coordinator

James Lee

Steven Lee

**Associate Professors**

Christopher Hebert  
 Sang Hea Kil  
 Edith Kinney, Legal Studies Coordinator  
 Claudio Vera Sanchez, Interim Chair

**Assistant Professors**

Ericka Adams, Graduate Coordinator  
 Mark Barash, Forensic Science Program Co-Coordinator  
 Shawna Bolton, Forensic Science Program Co-Coordinator  
 Sambuddha Ghatak, Human Rights Coordinator  
 John Halushka, Undergraduate Coordinator  
 Grace Howard  
 Jodie Warren  
 Bryce Westlake, International Experience and Internship Coordinator  
 Yue (Wilson) Yuan

## Overview

Since 1930, the Department of Justice Studies has developed, promoted and fostered social justice and empowered communities. In an ever-changing social, political and economic environment, we remain committed to academic excellence, social activism and policy relevant research. We offer BS and MS degrees in justice studies, a BS in forensic science and minors in justice studies, forensic studies, an MS in Criminology, legal studies and human rights. Among other topics, our widely regarded faculty conduct research in the areas of human rights, immigration, violence against women, sex offender behavior, family violence, and DNA profiling. Student groups and clubs include Alpha Phi Sigma, Chi Pi Sigma and the Forensic Science Club. Our graduates work in a multitude of settings including probation, parole, corrections, law enforcement, crime labs, and nonprofit agencies, or they continue their education in law school or other graduate programs.

## Undergraduate

### Forensic Science, Biology Concentration, BS

- Department of Justice Studies
- Program Learning Outcomes

**Summary of Degree Units**

University Graduation Requirements	41
Major Preparation	40
Major Requirements	35
University Electives	1-4
<b>Total</b>	<b>120</b>

**University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Prerequisite Requirements**

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### **Justice Studies International Experience Requirement**

To satisfy the Justice Studies Department International Experience, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE Area C and 1 course in GE Area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in Area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (40 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

### Complete One Course From:



- CHEM 130A - Biochemistry 4 unit(s)
- CHEM 135 - General Biochemistry 4 unit(s)

## Major Requirements (39 units)

### Core Courses (32 units)

- BIOL 30 - Principles of Biology I 4 unit(s) (B2+B3)
- BIOL 31 - Principles of Biology II 4 unit(s) (B2+B3)
- BIOL 115 - General Genetics 4 unit(s)
- FS 11 - Survey of Forensic Science 3 unit(s)
- FS 161 - Crime Scene Investigation 3 unit(s)
- FS 162 - Forensic Science Applications 3 unit(s)
- FS 167 - Forensic Molecular Biology 5 unit(s)
- JS 100W - Writing Workshop 3 unit(s) (Z)

### Complete One Course From:

- FS 169 - FS Senior Sem : Studies in Contemporary FS Issues 3 unit(s)
- JS 189 - Senior Seminar: Contemporary Problems 3 unit(s)

### Practical Requirement (3 units)

- JS 181 - Internship: Justice Studies 1-6 unit(s) (3 units required)

### International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

### Major Electives(1-4 units)

Complete 4 units from the following. Other electives may be substituted with advisor approval

- ANTH 157 - Forensic Anthropology 3 unit(s)
- BIOL 116 - Molecular Genetics 4 unit(s)
- BIOL 117 - Human Genetics 3 unit(s)
- BIOL 118 - Evolutionary Genetics 4 unit(s)
- BIOL 123A - Bioinformatics I 3 unit(s)
- BIOL 123B - Bioinformatics II 3 unit(s)
- BIOL 124 - Systems Physiology 3 unit(s)
- BIOL 125 - Systems Physiology Laboratory 2 unit(s)
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 unit(s) (R)
- BIOL 135L - Molecular Cell Biology Lab 3 unit(s)
- BIOL 137 - Introduction to Principles of Toxicology 3 unit(s)
- BIOL 145 - Advanced Undergraduate Biology Seminar 1-3 unit(s)
- BIOL 145L - Advanced Undergraduate Biology Lab 1-2 unit(s)
- BIOL 165 - Advanced Human Anatomy 4 unit(s)

- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*
- FS 160 - Special Topics in Forensic Science 1-5 *unit(s)*
- FS 163 - Fingerprint Science 3 *unit(s)*
- FS 164 - Crime Scene and Evidence Photography 3 *unit(s)*
- FS 165 - Forensic Biometrics 3 *unit(s)*
- FS 166 - Forensic Chemistry 3 *unit(s)*
- FS 168 - Fluorescent Applications in Molecular Biology and Forensic Science 3 *unit(s)*
- FS 106 - Forensic Entomology 3 *unit(s)*
- JS 143 - Criminal Evidence and Procedure 3 *unit(s)*
- JS 171 - Human Rights and Justice 3 *unit(s)* (V)
- JS 180 - Individual Studies 1-3 *unit(s)*
- JS 181 - Internship: Justice Studies 1-6 *unit(s)*
- JS 185 - Special Topics in Law and Justice 3 *unit(s)*
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MICR 101 - General Microbiology 5 *unit(s)*
- PHIL 133 - Ethics in Science 3 *unit(s)* (V)
- PHIL 160 - Philosophy of Science 3 *unit(s)* (R)
- PSYC 110 - Adult Psychopathology 3 *unit(s)*
- PSYC 129 - Neuroscience 3 *unit(s)*
- PSYC 153 - Psychology in the Courtroom 3 *unit(s)*

Total Units Required (120 units)

## Forensic Science, Chemistry Concentration, BS

- Department of Justice Studies
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	32
Major Requirements	42
University Electives	2-5
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### Justice Studies International Experience Requirement

To satisfy the Justice Studies Department International Experience, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE Area C and 1 course in GE Area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in Area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (32 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- MATH 30 - Calculus I 3 *unit(s)* (B4)  
MATH 30X may be used instead of MATH 30.
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

## Complete One Course From:

- JS 15 - Introductory Statistics in Justice Studies 3 *unit(s)* (B4)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)

## Major Requirements (47 units)

## Core Courses (39 units)

- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*
- CHEM 130A - Biochemistry 4 *unit(s)*
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 160 - Physical Chemistry 4 *unit(s)*
- FS 11 - Survey of Forensic Science 3 *unit(s)*
- FS 161 - Crime Scene Investigation 3 *unit(s)*
- FS 162 - Forensic Science Applications 3 *unit(s)*
- JS 100W - Writing Workshop 3 *unit(s)* (Z)

### Complete One Course From:

- FS 169 - FS Senior Sem : Studies in Contemporary FS Issues 3 *unit(s)*
- JS 189 - Senior Seminar: Contemporary Problems 3 *unit(s)*

### Practical Requirement (3 units)

- JS 181 - Internship: Justice Studies 1-6 *unit(s)* (3 *units* required)

### International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

### Major Electives (2-5 units)

Complete 2-5 units from:

*Other electives may be substituted with advisor approval*

- ANTH 157 - Forensic Anthropology 3 *unit(s)*
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 116 - Molecular Genetics 4 *unit(s)*
- BIOL 117 - Human Genetics 3 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*
- BIOL 123A - Bioinformatics I 3 *unit(s)*
- BIOL 123B - Bioinformatics II 3 *unit(s)*
- BIOL 124 - Systems Physiology 3 *unit(s)*
- BIOL 125 - Systems Physiology Laboratory 2 *unit(s)*
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 *unit(s)* (R)
- BIOL 135L - Molecular Cell Biology Lab 3 *unit(s)*
- BIOL 137 - Introduction to Principles of Toxicology 3 *unit(s)*
- BIOL 145 - Advanced Undergraduate Biology Seminar 1-3 *unit(s)*
- BIOL 145L - Advanced Undergraduate Biology Lab 1-2 *unit(s)*

- BIOL 165 - Advanced Human Anatomy 4 unit(s)
- BIOL 190 - Field Studies in Biology 1-4 unit(s)
- CHEM 101 - Chemistry and the Computer 3 unit(s)
- CHEM 113B - Organic Chemistry Lab 3 unit(s)
- CHEM 131A - Biochemistry Lab 2 unit(s)
- CHEM 173 - Polymer Chemistry 3 unit(s)
- FS 160 - Special Topics in Forensic Science 1-5 unit(s)
- FS 163 - Fingerprint Science 3 unit(s)
- FS 164 - Crime Scene and Evidence Photography 3 unit(s)
- FS 165 - Forensic Biometrics 3 unit(s)
- FS 166 - Forensic Chemistry 3 unit(s)
- FS 167 - Forensic Molecular Biology 5 unit(s)
- FS 168 - Fluorescent Applications in Molecular Biology and Forensic Science 3 unit(s)
- FS 106 - Forensic Entomology 3 unit(s)
- JS 143 - Criminal Evidence and Procedure 3 unit(s)
- JS 171 - Human Rights and Justice 3 unit(s) (V)
- JS 180 - Individual Studies 1-3 unit(s)
- JS 181 - Internship: Justice Studies 1-6 unit(s)
- MATH 31 - Calculus II 4 unit(s) (B4)
- PHIL 133 - Ethics in Science 3 unit(s) (V)
- PHIL 160 - Philosophy of Science 3 unit(s) (R)
- PHYS 158 - Modern Optics 3 unit(s)
- PSYC 110 - Adult Psychopathology 3 unit(s)
- PSYC 129 - Neuroscience 3 unit(s)
- PSYC 153 - Psychology in the Courtroom 3 unit(s)

Total Units Required (120 units)

## Forensic Science, Digital Evidence Concentration, BS

- Department of Justice Studies
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	36
Major Preparation	36
Major Core Requirements	36
Major Electives	10
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

## Justice Studies International Experience Requirement

To satisfy the Justice Studies Department International Experience, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Course Attributes.

## University Requirements (36 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE Area C and 1 course in GE Area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in Area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B/HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (36 units)

- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*
- CS 47 - Introduction to Computer Systems 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (B1B3)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)  
*MATH 30X may be used instead of MATH 30.*
- MATH 42 - Discrete Mathematics 3 *unit(s)*  
*MATH 42X may be used instead of MATH 42.*

### Statistics (3 units)

Complete one course:

- JS 15 - Introductory Statistics in Justice Studies 3 *unit(s)* (B4)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)



## Programming (3 units)

Complete one course:

- CS 22A - Python Programming for Non Majors I 3 unit(s)
- CS 49C - Programming in C 3 unit(s)

## Major Requirements (36 units)

### Core Courses (24 units)

- FS 100W - Forensic Science Writing Workshop 3 unit(s) (Z) or JS 100W - Writing Workshop 3 unit(s) (Z)
- JS 114 - Research Methods in Justice Studies 3 unit(s)
- CS 146 - Data Structures and Algorithms 3 unit(s)
- FS 11 - Survey of Forensic Science 3 unit(s)
- FS 161 - Crime Scene Investigation 3 unit(s)
- FS 162 - Forensic Science Applications 3 unit(s)
- FS 130 - Introduction to Digital Forensics 3 unit(s)
- FS 131 - Digital Forensics Analysis 3 unit(s)

### Computer Systems I-II (6 units)

*In consultation with advisor, select three computer systems courses.*

Complete three courses:

- CS 147 - Computer Architecture 3 unit(s)
- CS 149 - Operating Systems 3 unit(s)
- CS 157A - Introduction to Database Management Systems 3 unit(s)
- CS 157B - Database Management Systems II 3 unit(s)
- CS 158A - Computer Networks 3 unit(s)
- CS 158B - Computer Network Management 3 unit(s)
- CS 166 - Information Security 3 unit(s)
- CS 175 - Mobile Device Development 3 unit(s)

### Senior Seminar (3 units)

Complete one course:

- FS 169 - FS Senior Sem : Studies in Contemporary FS Issues 3 unit(s)
- JS 189 - Senior Seminar: Contemporary Problems 3 unit(s)

### Practical Requirement (3 units)

- JS 181 - Internship: Justice Studies 1-6 unit(s)

## International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

## Major Electives (10 units)

*Other electives may be substituted with advisor approval.*

- Any Forensic Science (FS) Course 3 unit(s)
- JS 143 - Criminal Evidence and Procedure 3 unit(s)
- JS 144 - Criminal Law 3 unit(s)
- JS 161 - Introduction to Cybercrime 3 unit(s)
- JS 180 - Individual Studies 1-3 unit(s)
- JS 184 - Directed Reading 1-3 unit(s)
- CS 122 - Advanced Programming with Python 3 unit(s)
- CS 144 - Advanced C++ Programming 3 unit(s)
- CS 160 - Software Engineering 3 unit(s)
- PSYC 153 - Psychology in the Courtroom 3 unit(s)
- TECH 60 - Introduction to Electronics 3 unit(s)
- TECH 62 - Analog Circuits 3 unit(s)
- TECH 63 - Analog and Digital Circuits 3 unit(s)
- TECH 65 - Introduction to Networks 3 unit(s)
- TECH 66 - Network Administration 3 unit(s)
- TECH 115 - Automation and Control 3 unit(s)
- TECH 167 - Control Systems 3 unit(s)
- TECH 170 - Connected Products Applications 3 unit(s)
- TECH 171 - Network Security & Prevention Management 3 unit(s)
- TECH 172 - Database Server System Management 3 unit(s)
- TECH 173 - Cloud Computing System Management 3 unit(s)
- TECH 179 - Cyber Security System Management 3 unit(s)

## Total Units Required (120 units)

## Justice Studies, BS

- Department of Justice Studies
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	6
Major Requirements	45-48
University Electives	25-28

**Total** **120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Requirements for the major (all courses in preparation, core, and concentration/specialization) must be completed with a grade of "C or better".

### **Justice Studies International Experience Requirement**

To satisfy the Justice Studies Department International Experience, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (6 units)**

Complete one course from:

- FS 11 - Survey of Forensic Science 3 *unit(s)*
- JS 10 - Introduction to Justice Studies 3 *unit(s)*
- JS 12 - Introduction to Legal Studies 3 *unit(s)*
- JS 25 - Introduction to Human Rights and Justice 3 *unit(s)* (D3)

**Complete One Course From:**

- JS 15 - Introductory Statistics in Justice Studies 3 *unit(s)* (B4)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Major Requirements (45-48 units)

### International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

### Justice Studies Core (15 units)

- JS 100W - Writing Workshop 3 unit(s) (Z)
- JS 114 - Research Methods in Justice Studies 3 unit(s)
- JS 151 - Criminological Theory 3 unit(s)

### Complete One Course From:

- JS 181 - Internship: Justice Studies 1-6 unit(s) (3 units required)
- JS 141 - Record Clearance Project Representation 3 unit(s)

### Complete One Course From:

- JS 189 - Senior Seminar: Contemporary Problems 3 unit(s)
- FS 169 - FS Senior Sem : Studies in Contemporary FS Issues 3 unit(s)

### Required Courses (6 units)

- JS 101 - Critical Issues and Ideas in Justice 3 unit(s)
- JS 102 - Police and Society 3 unit(s)

### Additional Courses (24 units)

#### **Students Must Complete 24 Units from the Following Areas**

#### Area A: Theory Courses (6-9 units)

Complete six to nine units from:

- JS 103 - Courts and Society 3 unit(s)
- JS 104 - Penal Politics & Institutions 3 unit(s)
- JS 132 - Race, Gender, Inequality and the Law 3 unit(s) (S)
- JS 153 - Crime and Justice Across the Life Course 3 unit(s)
- JS 155 - Victimology 3 unit(s)
- JS 157 - Deviance and Justice 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) (When topic area is offered.)

#### Area B: Methodology Courses (3-6 units)

Complete three to six units from:

- JS 107 - Justice Management and Ethics 3 unit(s)
- JS 117 - Qualitative Research Methods 3 unit(s)
- JS 131 - Crisis Intervention, Mediation and Restorative Justice 3 unit(s)
- JS 143 - Criminal Evidence and Procedure 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*
- FS 161 - Crime Scene Investigation 3 unit(s)
- FS 162 - Forensic Science Applications 3 unit(s)

### Area C: Critical Inquiry Courses (3-6 units)

Complete three to six units from:

- JS 122 - Drugs and Society 3 unit(s)
- JS 128 - Punishment, Culture and Society 3 unit(s)
- JS 130 - Sexuality & Justice 3 unit(s)
- JS 136 - Family and Community Violence 3 unit(s) (S)
- JS 144 - Criminal Law 3 unit(s)
- JS 150 - Gender and Crime 3 unit(s)
- JS 152 - Juvenile Delinquency & Justice 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*

### Area D: Local, Transnational, Historical Courses (3-6 units)

Complete three to six units from:

- JS 121 - Media and Justice 3 unit(s)
- JS 123 - Terrorism, Intelligence, and Security 3 unit(s)
- JS 127 - Immigration and Justice 3 unit(s)
- JS 129 - International Crime and Deviance 3 unit(s)
- JS 137 - Collaborative Response to Family Violence 3 unit(s)
- JS 145 - White Collar Crime 3 unit(s)
- JS 156 - Gangs, Criminal Syndicates & Justice 3 unit(s)
- JS 158 - The Prison Community 3 unit(s)
- JS 161 - Introduction to Cybercrime 3 unit(s)
- JS 171 - Human Rights and Justice 3 unit(s) (V)
- JS 172 - Human Trafficking and Modern Day Slavery 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*

### Area E: Experiential Learning Courses (0-6 units)

Complete up to six units from:

- JS 140 - Record Clearance Project 3 unit(s)
- JS 142 - RCP - Advanced Study and Community Involvement 3 unit(s)
- JS 179 - Human Rights Practicum and Seminar 3 unit(s)
- JS 180 - Individual Studies 1-3 unit(s)
- JS 181 - Internship: Justice Studies 1-6 unit(s) *(3 units required) (JS 181 may be taken again for elective credit.)*
- JS 184 - Directed Reading 1-3 unit(s)

## University Electives (25-28 units)

A minor is strongly recommended

## Total Units Required (120 units)

# Justice Studies, Criminology Concentration, BS

- Department of Justice Studies
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	6
Major Core Requirements	15-18
Concentration Requirements	30
University Electives	22-25
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major-Specific Graduation Requirements

All courses in the Preparation and Requirements for the major (all courses in preparation, core, and concentration/specialization) must be completed with a grade of "C or better".

### Justice Studies International Experience Requirement

To satisfy the Justice Studies Department International Experience, students must study abroad for at least nine days in an approved program (exemption from the study abroad portion of the requirement must be approved by the dean of the College of Applied Sciences and Arts based on compelling individual life experiences or physical limitations. A relevant cross-cultural experience in the U.S. will be substituted).

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)



## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (6 units)

Complete one course from:

- FS 11 - Survey of Forensic Science 3 unit(s)
- JS 10 - Introduction to Justice Studies 3 unit(s)
- JS 12 - Introduction to Legal Studies 3 unit(s)
- JS 25 - Introduction to Human Rights and Justice 3 unit(s) (D3)

## Complete One Course From:

- JS 15 - Introductory Statistics in Justice Studies 3 unit(s) (B4)
- STAT 95 - Elementary Statistics 3 unit(s) (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Major Requirements (45-48 units)

### International Experience (0-3 units)

*In consultation with advisor, select an International Experience course.*

### Justice Studies Core (15 units)

- JS 100W - Writing Workshop 3 unit(s) (Z)
- JS 114 - Research Methods in Justice Studies 3 unit(s)
- JS 151 - Criminological Theory 3 unit(s)
- JS 181 - Internship: Justice Studies 1-6 unit(s) (3 units required)
- JS 189 - Senior Seminar: Contemporary Problems 3 unit(s)

## Concentration Required Courses (30 units)

### Students Must Complete 30 Units from the Following Areas

#### Area A: Theory Courses (3 units)

Complete three units from:

- JS 132 - Race, Gender, Inequality and the Law 3 unit(s) (S)
- JS 153 - Crime and Justice Across the Life Course 3 unit(s)
- JS 155 - Victimology 3 unit(s)
- JS 157 - Deviance and Justice 3 unit(s)

- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*

### Area B: Methodology Courses (3 units)

- JS 117 - Qualitative Research Methods 3 unit(s)

### Area C: Critical Inquiry Courses (12 units)

Complete twelve units from:

- JS 122 - Drugs and Society 3 unit(s)
- JS 130 - Sexuality & Justice 3 unit(s)
- JS 136 - Family and Community Violence 3 unit(s) (S)
- JS 150 - Gender and Crime 3 unit(s)
- JS 152 - Juvenile Delinquency & Justice 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*

### Area D: Local, Transnational, Historical Courses (12 units)

Complete twelve units from:

- JS 121 - Media and Justice 3 unit(s)
- JS 123 - Terrorism, Intelligence, and Security 3 unit(s)
- JS 129 - International Crime and Deviance 3 unit(s)
- JS 145 - White Collar Crime 3 unit(s)
- JS 156 - Gangs, Criminal Syndicates & Justice 3 unit(s)
- JS 161 - Introduction to Cybercrime 3 unit(s)
- JS 172 - Human Trafficking and Modern Day Slavery 3 unit(s)
- JS 185 - Special Topics in Law and Justice 3 unit(s) *(When topic area is offered.)*

### University Electives (22-25 units)

A minor is strongly recommended

### Total Units Required (120 units)

## Master

### Criminology, Global Criminology Concentration, MS

The Department of Justice Studies at San José State University offers an online Master of Science in Criminology with a Concentration in Global Criminology designed to adapt to the ever-changing environment of the justice and legal systems, and the discipline of criminology. It uniquely combines the advanced study of contemporary international crime and the various responses to crime around the globe with analytic and research techniques used by advanced scholars. It provides an international comparative curriculum that develops analytical skills, understanding of legal concepts, theoretical competency, and abilities to apply criminology in practical ways. It aims to equip graduates with a truly global outlook on crime and criminal justice, a commitment to international justice, and

professional competencies to apply practices from around the globe to meet the particular needs of their communities.

This degree program is housed in the Department of Justice Studies. More information is available at [www.sjsu.edu/justicestudies](http://www.sjsu.edu/justicestudies).

**Graduate Coordinator:** Dr. Claudio Vera Sanchez ([claudio.verasanchez@sjsu.edu](mailto:claudio.verasanchez@sjsu.edu))

## Admission Requirements

To be considered for admission to the MS in Criminology program, applicants must complete the university admission requirements, as well as have a baccalaureate degree from an accredited four-year college or university, minimum grade point average of 3.0 in the last 60 credits of coursework, a general understanding of computers and technology, and access to a computer with Internet. International applicants must have a TOEFL score of 550 (Paper Based), 213 (Computer Based), or 80 (Internet Based).

## International (Foreign) Students

Documentation of the applicant's TOEFL score should accompany other admission material. For TOEFL Requirements see Policies and Procedures section, Graduate and Post baccalaureate information.

## Requirements for Advancement to Candidacy

For advancement to candidacy for the Master of Science degree in Criminology, Concentration in Global Criminology, students must meet the general university requirements for admission to candidacy outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Requirements for the MS - Criminology, Concentration in Global Criminology.

Each student must take a core curriculum of 15 units (JS 265, JS 266, JS 271, JS 272, and JS 273). Elective courses must be 200-level courses in the department. Subject to graduate coordinator approval, two graduate courses in other departments or programs may be taken as electives, if the student demonstrates their relevance to the student's program of study and/or career goals. Undergraduate courses may not count toward the 30 units of required graduate course work. Students who are academically or administratively disqualified from the program will generally not be readmitted.

### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow the special session fees and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (30 units)

#### Core Courses (15 units)

- JS 265 - Comparative Criminal Justice Systems 3 *unit(s)* (GWAR)
- JS 266 - Applied Research Methods and Statistics 3 *unit(s)*
- JS 271 - International Human Rights 3 *unit(s)*
- JS 272 - Policing in Global Contexts 3 *unit(s)*
- JS 273 - International Criminology and Juvenile Delinquency 3 *unit(s)*

#### Concentration Requirements (12 units)

- JS 267 - Crime and Gender Around the World 3 *unit(s)*
- JS 268 - Immigration and International Law 3 *unit(s)*
- JS 269 - Cyber Forensics 3 *unit(s)*
- JS 270A - Global Terrorism 3 *unit(s)*

#### Culminating Experience (3 units)

- JS 274 - Applied Project 3 *unit(s)*

### Total Units Required (30 units)

## Justice Studies, MS

The Department of Justice Studies at San José State University offers a full-time two-year or part-time three-year Master's program drawing upon criminology, criminal justice, sociology, political science, psychology, law, and history.

Areas of teaching and research in the Department include theory, policing, law and society, human rights, policy evaluation, juvenile justice, immigration, punishment & society, race theory, history, and forensic science.

The Master's program prepares students for careers in criminal justice settings, public institutions, grassroots community organizations, and nonprofit agencies, as well as for doctoral programs and research positions in public agencies.

More information is available on the Department of Justice Studies website at [www.sjsu.edu/justicestudies](http://www.sjsu.edu/justicestudies).

# Admission Requirements

## University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Justice Studies program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post Baccalaureate Information.

## Admission to the Program

To be considered for admission to the Justice Studies Department, applicants must complete the university admission requirements, as well as have a minimum grade point average of 3.0 in the last 60 units of university course work. Admission decisions will be based on a weighted assessment of the applicant's grade point average, course work and preparation, two letters of recommendation from academics, and a short essay on a justice-related topic chosen each year by the Justice Studies graduate committee (see department website for further information).

## Admission in Conditionally Classified Standing

Applicants meeting the university's requirements for the Graduate Division but lacking experience in research methods in the social sciences may, at the department's discretion, be required to take one or two classes to prepare them for the degree. These students may be admitted under conditionally classified standing. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Candidacy

For advancement to candidacy for the Master of Science degree in Justice Studies, students must meet the general university requirements for admission to candidacy outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

Advancement to Candidacy requires the following:

1. Classified standing
2. Completion of 9 units of core or required courses with a grade point average of 3.0 ("B") or better
3. Completion of the GWAR

Once advanced to candidacy, the student should meet with the department graduate coordinator to draft an approved plan of study. This program must identify 33 units of course work as outlined in the following list of course requirements.

# Requirements for Graduation

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Completing Requirements for the MS - Justice Studies

### Course Requirements

Each student must complete a core curriculum of 18 units (JS 201, JS 202, JS 203, JS 207, JS 211 and JS 265), 9 units of elective courses, and master's thesis or project as their 6-unit culminating experience. The thesis option requires six units of JS 299; the project option requires completion of JS 297 and an additional 3-unit elective. Elective courses must be 200-level courses in the department. Subject to graduate coordinator approval, two graduate courses in other departments on campus may be taken as electives, if the student demonstrates their relevance to the student's program of study and/or career goals in Justice Studies. Undergraduate courses may not count toward the 33 units of required graduate course work. Students who are academically or administratively disqualified from the program will generally not be readmitted.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

Students select one of the following options for their culminating experience. Students should choose the option that best suits their particular interests and goals.

### Plan A (with Thesis)

Plan A provides an advanced program of study for those who are primarily interested in conducting research, and pursuing advanced study toward the doctorate. The Plan A is a 6-unit thesis option designed to provide opportunities for in-depth investigation in the student's area of emphasis. The thesis will include original research on a topic approved by the thesis committee and must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. The student and the thesis committee chair, with approval by the graduate coordinator, determine the thesis requirements and timelines. Approval by the graduate coordinator and thesis committee and a "B" average in the core coursework is required before a student can register for JS 299 - Master's Thesis (3 units). Students interested in this option must also submit a brief written statement to the graduate coordinator describing their research interests and expertise, and receive permission from the graduate coordinator.

### Plan B (Project)

The Plan B option provides an advanced program of study for professionals and those who want to pursue careers in justice studies fields. It requires a 3-unit research project that is conducted with the rigor appropriate to graduate

work. Its culminating experience is a substantial, original paper on a specific research topic and an associated poster presentation evaluated by a faculty panel comprised of all members of the Justice Studies graduate committee. Individual projects are agreed to by the graduate student and JS 297 academic advisor and require the approval of the Graduate Coordinator. Students choosing this option must take an additional 3-unit elective and enroll in JS 297 - Program Evaluation Project during their final semester.

## Master's Requirements (33 units)

### Core Courses (18 units)

- JS 201 - Justice and Social Theory 3 *unit(s)* (GWAR)
- JS 202 - Survey of Research Methods 3 *unit(s)*
- JS 203 - Seminar in Applied Statistics in Justice 3 *unit(s)*
- JS 207 - Seminar in Qualitative Research Methods 3 *unit(s)*
- JS 211 - Historical Issues in Justice Studies 3 *unit(s)*
- JS 223 - Seminar: Comparative Criminology & Criminal Justice 3 *unit(s)*

### Electives (9 units)

9 units from the following:

- JS 204 - Justice Organizations, Ethics & Change 3 *unit(s)*
- JS 205 - Seminar in Law and Courts 3 *unit(s)*
- JS 206 - Seminar in Juvenile Justice 3 *unit(s)*
- JS 208 - Seminar: Punishment & Society 3 *unit(s)*
- JS 209 - Seminar in Police and Social Control 3 *unit(s)*
- JS 212 - Local & Global Perspectives on Human Rights 3 *unit(s)*
- JS 214 - Seminar: Social Movement, Community Organizing, and Social Justice 3 *unit(s)*
- JS 218 - Seminar: Immigration, Law & Justice 3 *unit(s)*
- JS 220 - Seminar: Criminological Theory 3 *unit(s)*
- JS 221 - Seminar: Deviance & Social Control 3 *unit(s)*
- JS 222 - Seminar: Penal Policies and Justice 3 *unit(s)*

### Culminating Experience (6 units)

#### Plan A (with Thesis)

- JS 299 - Master's Thesis 3-6 *unit(s)* (6 units required)

#### Plan B (Project)

- JS 297 - Program Evaluation Project 3 *unit(s)*
- Additional 3 units electives 3 *unit(s)*

### Total Units Required (33 units)

Elective courses must be planned in consultation with the graduate advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Collaborative Response to Family Violence Certificate (Graduate)

The Certificate for Collaborative Response to Family Violence is available to community professionals of all disciplines who wish to enhance their skills and effectiveness through continued study. It is a 12-14 unit certificate program which integrates knowledge in the areas of family violence and collaboration to inform and improve our response to family violence and enhance innovation and effectiveness. Certificate participants will develop a strong working knowledge and awareness of:

- Family violence
- Dynamics, impacts and meaning of violence across disciplines
- Critical systems involved in responding to family violence
- Skills for collaboration
- Critical analysis of stages and elements of effective collaboration

#### Certificate Core (6 units)

- JS 136 - Family and Community Violence 3 *unit(s)* (S)
- JS 137 - Collaborative Response to Family Violence 3 *unit(s)*

#### Required Seminars (3 units)

Take three units of seminar courses.

- JS 243 - Collaborative Dialogues Seminar 1 *unit(s)*
- JS 244 - Collaborative Projects Seminar 1 *unit(s)*
- JS 245 - Collaborative Field Experience Seminar 1 *unit(s)*
- JS 245B - Independent Study ICR Field Placement 1 *unit(s)* (*Students take two units of JS 245B only if needed to fulfill the JS 245 co-requisite for field experience*)

#### Elective Courses (3 units)

Take three units of elective courses

*Other courses with approval of advisor*

- JS 246 - Research Methods in Family Violence 1 *unit(s)*
- JS 247 - Family Violence in Special Populations 1 *unit(s)*
- JS 248 - Community Justice 1 *unit(s)*
- JS 249 - Neurobiology Response to Family Violence 1 *unit(s)*
- SCWK 247 - Collaborative Leadership in Social Service Contexts 1 *unit(s)*



## Total Units Required (12-14 units)

### Minor

## Forensic Studies Minor

The Minor in Forensic Studies will appeal to students in majors across the university, and has practical applications in the areas of law, law enforcement, engineering, computer science, accounting, chemistry, biology, nursing, medicine, and anthropology.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirement (15 units)

### Required Courses (9 units)

- FS 11 - Survey of Forensic Science 3 *unit(s)*
- FS 161 - Crime Scene Investigation 3 *unit(s)*
- FS 162 - Forensic Science Applications 3 *unit(s)*

### Additional Courses (6 units)

#### Complete Two Courses From:

*Substantive Electives are revised each fall semester*

- ANTH 157 - Forensic Anthropology 3 *unit(s)*
- FS 160 - Special Topics in Forensic Science 1-5 *unit(s)*
- FS 163 - Fingerprint Science 3 *unit(s)*
- FS 164 - Crime Scene and Evidence Photography 3 *unit(s)*
- FS 165 - Forensic Biometrics 3 *unit(s)*
- JS 143 - Criminal Evidence and Procedure 3 *unit(s)*
- JS 185 - Special Topics in Law and Justice 3 *unit(s)* (*Special topic must be approved by minor advisor*)
- PHIL 133 - Ethics in Science 3 *unit(s)* (*V*)
- PHIL 160 - Philosophy of Science 3 *unit(s)* (*R*)
- PHOT 110 - Black and White Photography 3 *unit(s)*
- PSYC 110 - Adult Psychopathology 3 *unit(s)*
- PSYC 129 - Neuroscience 3 *unit(s)*
- PSYC 153 - Psychology in the Courtroom 3 *unit(s)*

## Total Units Required (15 units)

## Human Rights Minor

The Minor in Human Rights is meant to prepare students for careers in relation to international law, human rights advocacy/reporting/organizing, and human rights scholarship. The Minor can supplement the program of students who have interests in (for example) social problems, public policy, social movements and social change, international relations/studies, law and governance, issues of justice, and global cultures.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Courses (9 units)

- JS 25 - Introduction to Human Rights and Justice 3 *unit(s)* (D3)
- JS 179 - Human Rights Practicum and Seminar 3 *unit(s)*

### Complete One Course From:

- JS 171 - Human Rights and Justice 3 *unit(s)* (V)
- SOCI 118 - Sociology of Human Rights and Social Justice 3 *unit(s)*

### Additional Courses (6 units)

Choose two courses from different departments. Substantive Electives are revised each Fall semester.

Complete two courses from:

- AAS 175 - Asian American Communities 3 *unit(s)* (S)
- AFAM 120 - Sociology of African American Communities 3 *unit(s)*
- AFAM 134 - The Black Civil Rights Movements 3 *unit(s)*
- AFAM 151 - Race, Class and the Environment 3 *unit(s)*
- AFAM 159 - Economic Issues in the Black Community 3 *unit(s)*
- ANTH 115 - The Emerging Global Culture 3 *unit(s)* (V)
- ANTH 140 - Human Sexuality 3 *unit(s)* (S)
- ANTH 146 - Culture and Conflict 3 *unit(s)* (V)
- COMM 157SL - Community Action/Community Service 3 *unit(s)* (S)
- COMM 174 - Intercultural Comm & Struct Inequality 3 *unit(s)* (S)
- ECON 112 - Economic Development 4 *unit(s)*
- ENGL 117B - Global Film, Literature, and Cultures 3 *unit(s)* (V)
- ENGL 122 - Topics in Comparative World Literature 4 *unit(s)*
- ENGL 126 - Holocaust Literature 3 *unit(s)* (V)
- ENGL 165 - Topics in Ethnic American Literature 4 *unit(s)*
- ENGL 169 - Ethnicity in American Literature 3 *unit(s)* (S)
- ENVS 105 - Environmental Change and Problems, San Francisco Bay Area 3 *unit(s)*
- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*
- ENVS 117 - Human Ecology 3 *unit(s)*
- ENVS 140 - Politics and the Environment 3 *unit(s)*

- ENVS 152 - Globalization and the Environment 3 *unit(s)* (R)
- ENVS 159 - Nature and World Cultures 3 *unit(s)* (V)
- GEOG 112 - Nations, Cultures, and Territorial Disputes 3 *unit(s)* (V)
- GEOG 115 - Global Development 3 *unit(s)*
- GLST 162 - Contemporary Global Issues 3 *unit(s)*
- GLST 164 - Advanced Seminar in Global Citizenship 3 *unit(s)*
- GLST 167 - Changing Ecologies of Globalization 3 *unit(s)* (R)
- HIST 188 - History of Women in the United States 3 *unit(s)* (S)
- PH 172 - Contemporary Environmental Health Issues 3 *unit(s)* (R)
- HUM 122 - Topics in Comparative World Literature 4 *unit(s)*
- HUM 126 - Holocaust Literature 3 *unit(s)* (V)
- JS 122 - Drugs and Society 3 *unit(s)*
- JS 127 - Immigration and Justice 3 *unit(s)*
- JS 129 - International Crime and Deviance 3 *unit(s)*
- JS 132 - Race, Gender, Inequality and the Law 3 *unit(s)* (S)
- JS 172 - Human Trafficking and Modern Day Slavery 3 *unit(s)*
- CCS 105 - Chicanos: United States/Mexico Relations 3 *unit(s)*
- CCS 120 - Political Economy and Chicana/o Communities 3 *unit(s)*
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)* (S)
- CCS 175 - Human Migrations: Global Reach 3 *unit(s)*
- MCOM 106 - Global Mass Communication 3 *unit(s)*
- MDES 144 - Middle Eastern Politics 4 *unit(s)*
- MDES 156 - Islam, Politics and the West 3 *unit(s)*
- METR 168A - Global Climate Change I 6 *unit(s)*
- METR 168B - Global Climate Change II 3 *unit(s)* (R+S+V)
- METR 174 - Climate Change Solutions 3 *unit(s)*
- NUFS 139 - Hunger and Environmental Nutrition 3 *unit(s)* (R)
- PHIL 122 - Social Justice 3 *unit(s)*
- PHIL 126 - Environmental Ethics and Philosophy 3 *unit(s)*
- POLS 130 - American Public Policy 4 *unit(s)*
- POLS 135 - U.S. Environmental Policy 3 *unit(s)*
- POLS 147 - Globalization 4 *unit(s)*
- POLS 150 - War and Peace 3 *unit(s)* (V)
- POLS 152A - International Organizations and NGOs 4 *unit(s)*
- POLS 152B - Model United Nations 4 *unit(s)*
- POLS 154 - U.S. Foreign Policy: Formulation and Administration 4 *unit(s)*
- POLS 155 - The Wealth of Nations 4 *unit(s)*
- POLS 170V - American Politics in Global Perspective 3 *unit(s)* (USV)
- PSYC 145 - Community Mental Health 3 *unit(s)*
- PSYC 191 - The Psychology of Prejudice 3 *unit(s)* (S)
- SOCI 116 - Global Society 3 *unit(s)*
- SOCI 118 - Sociology of Human Rights and Social Justice 3 *unit(s)*
- SOCI 120 - Contemporary Social Issues 3 *unit(s)*
- SOCI 141 - Environmental Sociology 3 *unit(s)*
- SOCI 160 - Immigration and Identity 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)
- SOCI 164 - Social Action 3 *unit(s)*
- SOCI 165 - Poverty, Wealth and Privilege 3 *unit(s)*

- SOCI 172 - Lesbian, Gay, Bi, Transgender Studies 3 *unit(s)*
- SOCS 137 - California History for Teachers 3 *unit(s)*
- SOCS 138 - US History for Teachers 3 *unit(s)* (S)
- SOCS 139 - World History for Teachers 3 *unit(s)* (V)
- WOMS 101 - Sex, Power, and Politics 3 *unit(s)* (S)
- WOMS 112 - Women in the Global Economy 3 *unit(s)*
- WOMS 160 - Queering Gender, Race, and Class 3 *unit(s)*

Total Units Required (15 units)

## Justice Studies Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (18 units)

Required Lower Division Courses (3 units)

Complete one course from:

- JS 10 - Introduction to Justice Studies 3 *unit(s)*
- JS 12 - Introduction to Legal Studies 3 *unit(s)*
- JS 25 - Introduction to Human Rights and Justice 3 *unit(s)* (D3)

Required Upper Division Courses (6 units)

Complete Two Courses From:

- JS 101 - Critical Issues and Ideas in Justice 3 *unit(s)*
- JS 102 - Police and Society 3 *unit(s)*
- JS 114 - Research Methods in Justice Studies 3 *unit(s)*
- JS 151 - Criminological Theory 3 *unit(s)*

Upper Division Electives (9 units)

Complete any three upper division JS courses.

Total Units Required (18 units)

## Legal Studies Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18-22 units)

- POLS 120 - Law and Society *3 unit(s) (S)*

## Additional Courses (15-19 units)

**Take No More Than One Course From Each Area Below.**

### Perspectives in Law

- ECON 141 - Law and Economics *4 unit(s)*
- ENVS 124 - Introduction to Environmental Law *3 unit(s) (Can also be taken as POLS 124)*
- JS 144 - Criminal Law *3 unit(s)*
- PHIL 155 - Philosophy of Law *3 unit(s)*

### Contemporary Issues in Law and Justice

- AFAM 142 - Race, Ethnicity, and the Law *3 unit(s)*
- JS 101 - Critical Issues and Ideas in Justice *3 unit(s)*
- JS 122 - Drugs and Society *3 unit(s)*
- JS 123 - Terrorism, Intelligence, and Security *3 unit(s)*
- JS 132 - Race, Gender, Inequality and the Law *3 unit(s) (S)*
- JS 143 - Criminal Evidence and Procedure *3 unit(s)*
- JS 171 - Human Rights and Justice *3 unit(s) (V)*
- CCS 127 - Chicanas/os and the Criminal Justice System *3 unit(s)*
- SOCI 151 - Violence in the Family *3 unit(s)*

### Legal History

- AFAM 134 - The Black Civil Rights Movements *3 unit(s)*
- POLS 121A - Constitutional Law: Institutional Powers *4 unit(s)*
- POLS 121B - Constitutional Law: Civil Liberties *4 unit(s)*
- POLS 121C - Constitutional Law: Civil Rights *4 unit(s)*

### Law and Ethics

- BUS3 186 - Professional and Business Ethics *3 unit(s) (S)*
- COMM 133F - Ethical Problems in Communication *4 unit(s)*
- MCOM 101 - Media Law and Ethics *3 unit(s)*

### Law and the Courts

- COMM 147P - Argumentation and Persuasion in Courts of Law *4 unit(s)*

- JS 103 - Courts and Society 3 *unit(s)*
- POLS 122 - Judicial Politics 4 *unit(s)*

## Total Units Required (18-22 units)

### *FS 11 - Survey of Forensic Science*

3 *unit(s)*

This survey course introduces students to the profession of forensic science. Topics include the field's history and sub-disciplines, the CSI Effect, the application of the scientific method to physical evidence analysis. Virtual labs may be used to augment readings.

**Grading:** Graded

### *FS 100W - Forensic Science Writing Workshop*

3 *unit(s)*

Development of advanced communication skills, both written and oral, with emphasis on forensic laboratory and crime scene report writing and court testimony. A scholarly paper, written in APA format and informed by research, is also required. GE Area Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** FS 11 or JS 10; A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

### *FS 106 - Forensic Entomology*

3 *unit(s)*

Examines the science and methodology used to collect, analyze, and present information regarding insects and other arthropods that are important in legal investigations.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), or instructor consent. Must be a declared Biology or Forensic Science Major (all).

**Grading:** Graded

### *FS 130 - Introduction to Digital Forensics*

3 *unit(s)*

Introduce students to the process of digital evidence analysis, including the common crimes committed in cyberspace, the tools used to analyze evidence, and emerging trends (e.g., deep fakes and biometrics).

**Grading:** Graded

### *FS 131 - Digital Forensics Analysis*

3 unit(s)

An applied course where students get hands-on experience conducting digital evidence collection and analyses and gain an experience conducting forensic examinations.

**Prerequisite(s):** FS 130.

**Grading:** Graded

*FS 160 - Special Topics in Forensic Science*

1-5 unit(s)

Range of topics in Forensic Science which will vary by semester. Topics may include Blood Spatter Analysis, Microscopy and Trace Evidence, Forensic Art, Facial Reconstruction, and others. Repeatable for up to 9 units credit when content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** JS 10 or FS 11 or Instructor Permission. Justice Studies or Forensic Science major; Forensic Studies minor.

**Grading:** Graded

*FS 161 - Crime Scene Investigation*

3 unit(s)

Fundamental theories of physical evidence practically applied and the legal considerations involved in its recognition, collection preservation and presentation in court are covered. Topics include securing and recording the crime scene, collecting evidence, maintaining the chain of custody and reconstruction.

*Misc/Lab: Lecture 3 hours/lab 3 hours*

**Prerequisite(s):** FS 11, JS or FS Major/Minor, Upper Division Standing. JS students may substitute JS 10 or FS 11.

**Grading:** Graded

*FS 162 - Forensic Science Applications*

3 unit(s)

Scientific analysis and interpretation of physical evidence using identification and comparison techniques. Practical lab exercises in human identification, questioned documents, bite marks, trace evidence, presumptive testing and glass analysis. Additional topics include court testimony, quality assurance and ethics.

*Misc/Lab: Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** FS 11, JS or FS Major/Minor, Upper Division Standing. JS students may substitute JS 10 for FS 11.

**Grading:** Graded

*FS 163 - Fingerprint Science*

3 unit(s)

History and use of fingerprints in criminal identification. Topics include the scientific basis for fingerprint ID, anatomy of friction ridge skin, pattern classification, minutiae marking, the Henry System, AFIS and ACE-V, and court presentation of fingerprint evidence.

*Misc/Lab: Lecture 3 hours/Activity 3 hours.*

**Prerequisite(s):** FS 11, JS or FS Major/Minor, Upper division Standing. JS Students may substitute JS 10 for FS 11.  
**Grading:** Graded

*FS 164 - Crime Scene and Evidence Photography*

*3 unit(s)*

Practical use of photography in documenting crime scenes and evidence. Topics will include 35mm camera operation, lenses, focus, exposure, depth of field, lighting, composition, flash, injury documentation, digital cameras and video, and court presentation of photographic evidence.

*Misc/Lab: Lecture 3 hours/Activity 3 hours.*

**Prerequisite(s):** FS 11, JS or FS Major/Minor, Upper Division Standing. JS Students may substitute JS 10 for FS 11.  
**Grading:** Graded

*FS 165 - Forensic Biometrics*

*3 unit(s)*

A survey of scientific and biometric tools and applications used to establish human identity. Topics include identification of missing persons; casualties of mass disasters; victims of war crimes; and the ethical, legal and social implications of such technology.

**Prerequisite(s):** FS 11, JS 10, JS 25, or ANTH 12; upper division standing  
**Grading:** Graded

*FS 166 - Forensic Chemistry*

*3 unit(s)*

An exploration of scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of chemistry as applied in forensic science including special topics: drug analysis, toxicology, arson and trace analysis emphasizing the instrumentation that allows chemical examination of evidence.

**Prerequisite(s):** CHEM 1A, CHEM 1B, FS 11  
**Grading:** Graded

*FS 167 - Forensic Molecular Biology*

*5 unit(s)*

History, scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of forensic DNA analysis via lectures, hands-on activities/laboratories, and videos. Collection, documentation and preservation of biological evidence, bioethics, QA, validation, admissibility and training will also be covered.

*Misc/Lab: Lecture 4 hours/lab 2 hours.*

**Prerequisite(s):** BIOL 31, CHEM 1A, and CHEM 1B  
**Grading:** Graded

*FS 168 - Fluorescent Applications in Molecular Biology and Forensic Science*

*3 unit(s)*

This course covers scientific concepts, methods, practices, instrumentation, interpretation, statistics and court issues of fluorescence applications in molecular biology and forensic science. Topics include, atomic and molecular basis of



fluorescence, emission, photophysical processes, energy transfer, QA, validation, accreditation, and admissibility.

*Misc/Lab: Lecture 4 hours/lab 6 hours.*

**Prerequisite(s):** BIOL 30, BIOL 31, CHEM 1A, CHEM 1B, FS 162 all with grades of 'C' or better.

**Grading:** Graded

*FS 169 - FS Senior Sem : Studies in Contemporary FS Issues*

*3 unit(s)*

Identification, discussion and analysis of selected problems in forensic science. A major term paper, presentation on a selected topic and participation on written as well as in-class assignments and activities are required.

**Prerequisite(s):** Justice Studies Majors: Senior standing, JS 100W and JS 114 or instructor consent, graduation application filed and you must have already filled out and have a signed major form. Note- JS 114 is waived as a prerequisite for forensic science majors. For Forensic Science Majors: Senior standing, JS 100W, FS 161, FS 162, BIOL 30, CHEM 1A and CHEM 1B or by instructor consent, graduation application filed and you must have already filled out and have a signed major form.

**Grading:** Graded

*FS 170 - Forensic Science in Human Rights Investigations*

*3 unit(s)*

Role of forensic science in pursuing justice for human rights victims, using documentation, collection, processing and interpretation of evidence in violations of human rights and international humanitarian law and interfaces of law, society, culture, politics, history, ethics and forensic science.

**Corequisite(s):** JS 10, JS 25, FS 11, or instructor consent.

**Grading:** Graded

*FS 171 - Forensic Criminology*

*3 unit(s)*

Contextualizes mental processes, intentions, motivations, and reactions of criminals, police, victims, and the courts systems. Critically examines the psychology of deviant behavior, the evidentiary processes in justice systems, and the validity and reliability that come with testimony and criminal defenses.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** JS 100W

**Grading:** Graded

*JS 10 - Introduction to Justice Studies*

*3 unit(s)*

Historical and philosophical development of the justice system. Description, analysis and evaluation of criminal justice agencies. Relationship between theory and practice.

**Grading:** Graded

*JS 12 - Introduction to Legal Studies*

3 unit(s)

The course presents historical and modern perspectives of the theories and structures of law, and provides an overview of the economic and sociological challenges to law making. This course also examines the nexus between law, social change, and dispute resolution.

**Grading:** Graded

*JS 15 - Introductory Statistics in Justice Studies*

3 unit(s)

Introduction to measures of central tendency, variation, correlation and regression, probability, estimation and hypothesis testing as used in Justice Studies.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

**Grading:** Graded

*JS 25 - Introduction to Human Rights and Justice*

3 unit(s)

This course is a lower division introduction to the history of human rights as a concept and body of international law, and to the complicated role of human rights in contemporary social justice campaigns.

*Satisfies D3: Social Issues/Ethnic Studies*

**Grading:** Graded

*JS 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Graded

*JS 100W - Writing Workshop*

3 unit(s)

Development of advanced communication skills, both written and oral. Emphasis on writing formats used by criminal justice professionals. A scholarly paper, written in APA format and informed by research, will be required.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*JS 101 - Critical Issues and Ideas in Justice*

3 unit(s)

Interdisciplinary, historical and comparative examination of justice concepts and controversies, including the state's role in promoting justice and perpetuating injustice; legitimate versus illegitimate violence; human rights, stateless persons, and the international community; the relationship between social justice and criminal justice.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** Upper Division Standing; JS 10, JS 12, JS 25 or FS 11 or equivalent.

**Corequisite(s):** JS 100W; Justice Studies Minors, Legal Studies Minors: Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 102 - Police and Society*

3 unit(s)

A multidisciplinary study of law enforcement from the early 1800's to the present. Focus on significant studies in relation to the role of police and analysis of current models and practices.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 103 - Courts and Society*

3 unit(s)

Structure and functions of the court system. Emphasizes attorneys' and judges' roles and the court process. Examination of federal and state legislative, executive and judicial branch actions, including Supreme Court decisions in civil and criminal cases.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** A grade of "C" or better is required for graduation.

*JS 104 - Penal Politics & Institutions*

3 unit(s)

Interdisciplinary examination of issues of race, class, gender, ethnicity, economy, and culture as it relates to punishment, the penal process, and social control.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 107 - Justice Management and Ethics*

3 unit(s)

The theory and practice of managing justice system agencies, including organizational change and contemporary issues. In-depth examination of ethical challenges in managing justice agencies, and strategies for ensuring ethical practices.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 114 - Research Methods in Justice Studies*

*3 unit(s)*

Introduction to quantitative research methods used in Justice Studies. Includes relationship of theory to empirical evidence; logic underlying methods of inquiry; ethics in conducting empirical research; and methodological design, operationalization, and data analysis.

**Prerequisite(s):** JS 10, JS 12, JS 25, or FS 11 with a grade of "C" or better; JS 15 or STAT 95 or equivalent with a grade of "C" or better; JS 100W with a grade of "C" or better. Justice Studies Minors: Any 100W and Upper Division Standing.

**Grading:** Graded

**Note(s):** Restricted to JS majors and minors and FS majors. Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 117 - Qualitative Research Methods*

*3 unit(s)*

Introduction to qualitative research methods used in Justice Studies. Includes relationship of empirical evidence to theory, ethics in conducting empirical research, methodological design, interviewing techniques, field methods, participant observation, and content analysis.

**Prerequisite(s):** Upper division standing.

**Pre/Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 121 - Media and Justice*

*3 unit(s)*

This course is an interdisciplinary and comparative media examination of justice concepts and controversies, including forms of violence, human rights, undocumented persons, the state's role in promoting criminalization and social inequality, and the need for social justice and media reform.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 122 - Drugs and Society*

*3 unit(s)*

Examines the physiological effects of psychoactive drugs; history of legal and illegal drug use; causes and rates of use and addiction; drugs in the media; drug-related crime and violence; criminalization, decriminalization, legalization, harm reduction; drug courts; drug treatment.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 123 - Terrorism, Intelligence, and Security*

*3 unit(s)*

Examination of terrorist organizations and activities, definitions of terrorism, and social and political consequences of terrorism. Includes policy responses to terrorism, including roles of intelligence and security agencies, and impacts on law, rights and liberties.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 127 - Immigration and Justice*

*3 unit(s)*

Interdisciplinary analysis of cultural, social and political implications of transnational migrations and their historical and present influences on US culture. Emphasis on issues of social justice and human rights related to contemporary migratory movements.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 128 - Punishment, Culture and Society*

*3 unit(s)*

Critical analysis of the cultural, political and economic dimensions of penal politics in contemporary American society, with particular reference to the relationships between criminal justice and social justice. Emphasis on issues of racial, economic, and gender inequality.

**Corequisite(s):** Any 100w.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 129 - International Crime and Deviance*

*3 unit(s)*

This course offers an international perspective on violence. This course analyzes transnational crime and deviance trends, their causes, as well as organizational responses. Topics discussed in this class include international drug markets, sexual commerce, child soldiers, and terrorism.

**Pre/Corequisite(s):** Any 100W

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 130 - Sexuality & Justice*

3 unit(s)

Surveys the relationship between sexuality and social and criminal justice. Students explore the nature and extent of sexual offenses against adults and children. A critical examination of recent public policies aimed at managing sexual aggression is included.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 131 - Crisis Intervention, Mediation and Restorative Justice*

3 unit(s)

Review of theory, research and practical skill development in communication and problem resolution strategies using techniques of crisis intervention, mediation and restorative justice in community policing, family court, dependency court and juvenile justice settings.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 132 - Race, Gender, Inequality and the Law*

3 unit(s)

History of legal issues and individual and institutional discrimination of women, ethnic/cultural and religious minorities, LGBTQ people and the disabled in education, employment, criminal justice and the family. Solutions for structured inequality in the U.S.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 136 - Family and Community Violence*

3 unit(s)

Examines abusive relationships and responsive community and justice system policy and preventive interventions. Topics include child abuse, neglect, gang and hate crimes, rape, marital violence and elder abuse.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 137 - Collaborative Response to Family Violence*

*3 unit(s)*

Employs an ecological framework to explore the scope, effects and response to family violence by diverse services and systems. Students are introduced to theory and practice of interdisciplinary collaboration and how it applies to respond more effectively to family violence.

**Prerequisite(s):** Upper Division standing or Instructor Permission.

**Corequisite(s):** Any 100W. Completion of JS 136 or previous courses in family violence is suggested but not required.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 140 - Record Clearance Project*

*3 unit(s)*

RCP teaches students to give community education presentations and advise clients regarding court procedures to clear criminal convictions. Students learn legal interviewing, counseling, ethics, reading rap sheets, performing legal research and writing, court interpreting and related skills.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 141 - Record Clearance Project Representation*

*3 unit(s)*

Record Clearance Project Representation teaches students to assist clients in preparing and filing petitions to clear criminal convictions in court, and related tasks. Under attorney supervision, students represent between two to four clients.

**Prerequisite(s):** JS 140 or instructor consent.

**Grading:** Credit / No Credit

**Note(s):** JS 141 fulfills the internship requirement for the Justice Studies major. Students can enroll in JS 141 and JS 142 concurrently.

*JS 142 - RCP - Advanced Study and Community Involvement*

*3 unit(s)*

Record Clearance Project - Advanced Study and Community Involvement involves assisting RCP mentors (who are former clients) in working with clients who are released from custody, mentoring RCP students in client interviews, coordinating project tasks and events, collecting data from former clients and students, helping with RCP community involvement, and assisting in other tasks.

**Prerequisite(s):** JS 140 or instructor consent.

**Pre/Corequisite(s):** JS 142 fulfills the internship requirement for the Justice Studies major. Students can enroll in JS 141 and JS 142 concurrently.

**Grading:** Credit / No Credit

*JS 143 - Criminal Evidence and Procedure*

*3 unit(s)*

Origin, development, philosophy and constitutional basis of evidence; administrative and judicial rules and procedures that govern admissibility; examination of judicial decisions interpreting individual rights; exploration of process by which attorneys introduce evidence as proof or exculpation of crime.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 144 - Criminal Law*

*3 unit(s)*

Historical development of philosophy of law and constitutional provisions, legal definitions, classifications of crime, case law, methodology and concepts of criminal law as a social force.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 145 - White Collar Crime*

*3 unit(s)*

Growth and development of white collar crime in the United States: crimes at the workplace, computer fraud, swindles, embezzlement, bribery and graft at the corporate and governmental levels.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

**Note(s):** A grade of "C" or better is required for Justice Studies majors.

*JS 146 - Guns and the Law*

*3 unit(s)*

(Formerly JS 196) Socio-historical examination of the legal regulation of guns in the United States. Topics include prevalence of gun ownership, gun use, and gun-related violence; Constitutional foundations of gun ownership; and policy debates surrounding gun rights and gun control.

**Grading:** Graded

*JS 150 - Gender and Crime*



3 unit(s)

Analysis of gender and its influence upon criminal participation and victimization, treatment in the criminal justice system, and those working in the criminal justice fields. Emphasis on women's experiences.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 151 - Criminological Theory*

3 unit(s)

Analysis of the nature and extent of crime, including causation and prevention. Descriptions of offenses, criminal typologies and victim surveys. Evaluation of various control and prevention strategies.

**Prerequisite(s):** JS 10, JS 12, JS 25 or FS 11.

**Corequisite(s):** JS 100W. Justice Studies Minors: Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 152 - Juvenile Delinquency & Justice*

3 unit(s)

History, theory and functions of the juvenile justice system. The legal processes for delinquent minors, status offenders and dependent children, including intake, detention, adjudication and disposition. Current legal issues and debate.

**Prerequisite(s):** Upper Division Standing.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 153 - Crime and Justice Across the Life Course*

3 unit(s)

Explores how crime and justice are experienced by individuals over time. The nature and extent of offending and victimization at various ages across the life course is examined. A critical consideration of the criminal career paradigm is also provided.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 155 - Victimology*

3 unit(s)

Examination of the relationship between victim and offender; the behavior and attitudes of family, society and justice system toward the victim; nature and extent of loss, injury and damage to the victim.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 156 - Gangs, Criminal Syndicates & Justice*

3 unit(s)

A socio/historical examination of the emergence, evolution, persistence, activities and social structure of gangs and mobs, the effects of social factors, e.g., politics, law, technology and the economy, and consequences for communities and social institutions.

**Pre/Corequisite(s):** Any 100w

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 157 - Deviance and Justice*

3 unit(s)

This course examines various areas of norm violations and rule-breaking behaviors including, alcohol and drug use/abuse, criminal violence, corporate deviance, gang violence, and sexual deviance, child abuse, hate crime, mental illness, computer piracy and evaluates justice policies.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 158 - The Prison Community*

3 unit(s)

Analysis of formal and informal systems of organization and interaction among incarcerated people and staff. Effects of the social structure and external system on the organization of the prison community.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 161 - Introduction to Cybercrime*

3 unit(s)

Introduces students to the growing legal, technical, and social issues surrounding crimes committed in cyberspace or assisted by computers. Discusses the nature of cybercrime from an international perspective and how the borderless nature of cybercrime impacts regulation and enforcement.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 171 - Human Rights and Justice*

3 unit(s)

Interdisciplinary exploration of human rights instruments, institutions, and notable human rights campaigns. The historical development of human rights and contemporary threats to the realization of fundamental dignity for humans and non-humans will also be explored. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements. All SJSU Studies courses require completion of the WST and upper division standing.

*JS 172 - Human Trafficking and Modern Day Slavery*

3 unit(s)

Examines the social, cultural, and historical dimensions of global human trafficking and modern-day slavery, with special attention to the efficacy, effectiveness, and unintended consequences of various anti-trafficking policies from around the world, including the United States.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better to fulfill Justice Studies major requirements.

*JS 173 - Borders and Conflict*

3 unit(s)

Explores border conflicts, including their history and evolution over time as they relate to states, institutions, practices, politics, and impact on communities. Issues include militarism, human rights/civil rights, environmental impact, and prospects for peace.

**Corequisite(s):** Any 100W.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better is required to meet Justice Studies major requirements.

*JS 179 - Human Rights Practicum and Seminar*

3 unit(s)

Complete field experience in human rights advocacy/reporting/organizing while surveying recent human rights scholarship in seminar format.

**Prerequisite(s):** JS 25, any 100W.

**Grading:** Graded

*JS 180 - Individual Studies*

1-3 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Upper division standing. Not available to Open University Students.

**Grading:** Credit/No Credit

*JS 181 - Internship: Justice Studies*

*1-6 unit(s)*

The internship is designed to provide broad exposure to the requirements and operations of a variety of agencies and organizations that range from a criminal justice to social justice focus, including courts, law enforcement agencies, law offices, nonprofit organizations and community-based programs.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Upper division standing; Justice Studies or Forensic Science major; JS 100W with a "C" or better; 2.0 GPA; Department Consent, No Open University.

**Grading:** Credit / No Credit

**Note(s):** Students can take up to 3 additional units as JS electives.

*JS 183 - Ethics in Criminal Justice*

*3 unit(s)*

In-depth examination of ethical issues in policing, forensic science, and the judicial system. Rhetorical and critical analyses of opposing arguments in justice studies from a variety of ethical perspectives.

**Prerequisite(s):** JS 10, JS 25 or FS 11 or equivalent.

**Corequisite(s):** JS 100W or approved substitute.

**Grading:** Graded

*JS 184 - Directed Reading*

*1-3 unit(s)*

Designed to meet individual needs and interests.

**Prerequisite(s):** Upper division standing. Not available to Open University Students.

**Grading:** Credit/No Credit

*JS 185 - Special Topics in Law and Justice*

*3 unit(s)*

Range of law and justice issues and topics may be addressed. Content varies by semester. Topics may include international law and globalization, the struggle for justice, human rights, law, inequality and injustice, and others. May be repeated for credit when content changes for a maximum of 9 units.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*JS 185/TL - Justice Studies International Experience*

*1-9 unit(s)*

The goal of this course is to gain insight into systems of criminal and social justice outside of the U.S. Issues of

justice are explored, and the role of the student as a global citizen is emphasized. Includes international experiential component through study abroad.

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*JS 189 - Senior Seminar: Contemporary Problems*

*3 unit(s)*

Identification, discussion and analysis of selected problems in justice studies. A major term paper on a selected topic is required.

**Prerequisite(s):** Senior standing in final semester; Justice Studies or Forensic Science major; FS 100W or JS 100W and JS 114 with a "C" or better; Department Consent.

**Grading:** Graded

**Note(s):** Must achieve a grade of "C" or better is required for Justice Studies majors.

*JS 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

*JS 201 - Justice and Social Theory*

*3 unit(s)*

Examines classic and contemporary theories of justice, including legal, social, economic and criminal justice and their application to current social issues.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*JS 202 - Survey of Research Methods*

*3 unit(s)*

Examination of research methods applied to solving problems and resolving issues in justice-related agencies, organizations and processes. Focuses on the application of the scientific method to problem-solving and program evaluation.

**Prerequisite(s):** STAT 95 or equivalent, JS 114 or equivalent, and graduate standing

**Grading:** Graded

*JS 203 - Seminar in Applied Statistics in Justice*

*3 unit(s)*

An evaluation of specific statistical methods for quantitative and nonquantitative analyses, concentrating on applications and interpretations in justice related settings.

**Prerequisite(s):** STAT 95 or equivalent, JS 114 or equivalent, and graduate standing  
**Grading:** Graded

*JS 204 - Justice Organizations, Ethics & Change*

*3 unit(s)*

An examination of significant organization and management theories, behavioral processes, and organizational change and development.

**Prerequisite(s):** JS 201 and graduate standing  
**Grading:** Graded

*JS 205 - Seminar in Law and Courts*

*3 unit(s)*

Roles of the law in society. Analysis and critique of courts, attorneys, judges and juries; dispute resolution; race, class, sex inequality; law's symbolic functions and unintended consequences; new socio-legal research; and comparative perspectives.

**Grading:** Graded

*JS 206 - Seminar in Juvenile Justice*

*3 unit(s)*

Analysis of philosophy, theories, relevant law, research, constitutional issues related to juvenile justice. Structure and purpose of juvenile court proceedings. Minors in criminal and civil court, juvenile corrections, death penalty for juveniles, transfers to adult court, child victims, fetal abuse.

**Grading:** Graded

*JS 207 - Seminar in Qualitative Research Methods*

*3 unit(s)*

Qualitative research methods used in Justice Studies. Includes relationship of empirical evidence to theory, ethics in conducting empirical research, methodological design, interviewing techniques, field methods, participant observation, and content analysis.

**Prerequisite(s):** Graduate standing; or instructor permission.  
**Grading:** Graded

*JS 208 - Seminar: Punishment & Society*

*3 unit(s)*

Examination of a range of penal ideas and practices; includes historical analysis of punishment, overview of theoretical perspectives and empirical social science research on punishment and alternative sanctions and implications for contemporary penal policy.

**Grading:** Graded

*JS 209 - Seminar in Police and Social Control*

3 unit(s)

Critical examination of democratic policing, including internal and external strategies for control and reform. Emphasis on police role in democracy, policy, culture, performance measures for individuals and organizations, and alternative policing methods and policies.

**Grading:** Graded

*JS 211 - Historical Issues in Justice Studies*

3 unit(s)

Equips students to do historical research, understand the significance of historical perspectives for contemporary issues, and explore the place of historical obligations and entitlements in theories of justice.

**Prerequisite(s):** JS 201 and graduate standing

**Grading:** Graded

*JS 212 - Local & Global Perspectives on Human Rights*

3 unit(s)

This course is a graduate level exploration of contemporary human rights scholarship and praxis in the United States and in relation to U.S. domestic and foreign policy.

**Grading:** Graded

*JS 214 - Seminar: Social Movement, Community Organizing, and Social Justice*

3 unit(s)

This course is an exploration of social movement praxis. The class investigates community organizing broadly and discusses the idea of social justice, specifically how it relates to establishing human rights in our communities through the active participation of informed citizens.

**Grading:** Graded

*JS 218 - Seminar: Immigration, Law & Justice*

3 unit(s)

Graduate level interdisciplinary analysis of the cultural, political and socioeconomic implications of contemporary migratory movements and immigration control policies in the United States, with particular emphasis on notions of international human rights and global justice.

**Grading:** Graded

*JS 220 - Seminar: Criminological Theory*

3 unit(s)

A critical review of classical and contemporary theories and research in criminology. Evaluation of contemporary criminal justice and its relationship to theories of criminal behavior.

**Grading:** Graded

*JS 221 - Seminar: Deviance & Social Control*

3 unit(s)

This course examines various areas of norm violations and rule-breaking behaviors including, alcohol and drug use/abuse, criminal violence, corporate deviance, gang violence, and sexual deviance, child abuse, hate crime, mental illness, computer piracy and evaluates justice policies.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*JS 222 - Seminar: Penal Policies and Justice*

3 unit(s)

A critical review of historical and contemporary theoretical models. Evaluation of current research on treatment, rehabilitation/punishment models and their use in adult and juvenile institutions and community settings.

**Grading:** Graded

*JS 223 - Seminar: Comparative Criminology & Criminal Justice*

3 unit(s)

This course provides a comparative perspective on crime, violence and punishment in contemporary global societies. The course analyzes transnational trends in crime, as well as organizational responses to criminality. Topics include international drug markets, sexual commerce, child soldiers, and terrorism.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*JS 243 - Collaborative Dialogues Seminar*

1 unit(s)

This course will engage students in facilitated dialogues on cultural and professional perspectives on family violence. Students will learn the philosophy and process of dialogue and how dialogue enriches and sustains collaborative capacities at individual, relationship and organizational levels.

**Prerequisite(s):** JS 136 and JS 137

**Grading:** Graded

*JS 244 - Collaborative Projects Seminar*

1 unit(s)

This course will facilitate the design and implementation of student projects designed to enhance services and service delivery through interdisciplinary collaboration.

**Prerequisite(s):** JS 136 and JS 137

**Corequisite(s):** Research Methods course (if needed)

**Grading:** Graded

*JS 245 - Collaborative Field Experience Seminar*

1 unit(s)

This seminar will facilitate integration of concepts of collaboration in the field of family violence using the students' current experience in the field. Topics covered in the seminar will include: elements of effective collaboration, trauma-informed practice, cultural competence and ethical considerations.



**Prerequisite(s):** JS 136 and JS 137

**Grading:** Graded

*JS 245B - Independent Study ICR Field Placement*

*1 unit(s)*

This independent study is designed for students unable to meet the program's field experience requirement through their current employment or internship. Students and community professionals taking the Independent Study: Collaborative field Placement internship will be placed in ICR approved placements. Students are required to complete a minimum of 60 hours in their field placement during the course.

**Prerequisite(s):** JS 136, JS 137

**Corequisite(s):** JS 245

**Grading:** Credit/No Credit

*JS 246 - Research Methods in Family Violence*

*1 unit(s)*

This course will prepare students to interpret, critique, plan and conduct applied research in the field of domestic violence by providing a fundamental understanding of the types and purposes of research and the logic involved in the scientific method and research design.

**Grading:** Graded

*JS 247 - Family Violence in Special Populations*

*1 unit(s)*

This course covers special populations in family violence, contributing to a broader understanding of this complex social issue. The course chooses one group for study, such as LGBT or military families, and explores the unique correlates, effects and intervention strategies.

*Course may be repeated for credit for up to 2 units.*

**Grading:** Graded

*JS 248 - Community Justice*

*1 unit(s)*

Collaborative justice efforts as they relate to family violence in the American justice system. Emphasis on the role of the community and how citizens can be involved in collaborative justice.

**Grading:** Graded

*JS 249 - Neurobiology Response to Family Violence*

*1 unit(s)*

In this course, we explore current research, models, and theories introduced through the field of Interpersonal Neurobiology to better understand trauma, collaboration, and violence. Using IPNB concepts, students work to improve sustainable impact in reducing family violence and its effects.

**Grading:** Graded

*JS 265 - Comparative Criminal Justice Systems*

*3 unit(s)*

Theory-based comparative analysis of US criminal justice system with criminal justice systems around the world. Course focuses on legal traditions, policing, courts and corrections, with emphasis on the role of geographical, historical and cultural traditions in shaping criminal justice.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Grading:** Graded

*JS 266 - Applied Research Methods and Statistics*

*3 unit(s)*

This course introduces research concepts, methodology, design, qualitative and quantitative data analysis, interpretation, and SPSS use for understanding crime and evaluating criminal justice issues, policies, and agency practices.

**Prerequisite(s):** JS 114 or equivalent

**Grading:** Graded

*JS 267 - Crime and Gender Around the World*

*3 unit(s)*

This course is designed to examine the growing body of literature that deals with women's experiences about crime and justice to understand the impact of gendered relations on criminal behavior and justice outcomes.

**Grading:** Graded

*JS 268 - Immigration and International Law*

*3 unit(s)*

This online course provides an overview of the United States legislation and policy relating to immigration and explores the opportunities and challenges facing policy-makers in the context of domestic law and policy, as well as global norms and regimes.

**Grading:** Graded

*JS 269 - Cyber Forensics*

*3 unit(s)*

This online course teaches procedures for identification, preservation and extraction of electronic evidence. Public and private sector responses to cyber security issues in national and international contexts are discussed.

**Grading:** Graded

*JS 270A - Global Terrorism*

*3 unit(s)*

This online course examines terrorism and the role it plays in today's complex world as well as the theory and practice of international terrorism.

**Grading:** Graded

*JS 271 - International Human Rights*

*3 unit(s)*

This online course focuses on the politics and history of the conception, protection, and violation of human rights in global perspectives as well as the examination of the practical applications of the theory.

**Grading:** Graded

*JS 272 - Policing in Global Contexts*

*3 unit(s)*

This online course examines policing from a global perspective. The objective of this course is to orient students as to how police organizations operate in different parts of the world in terms organization, crime control, and crime prevention.

**Grading:** Graded

*JS 273 - International Criminology and Juvenile Delinquency*

*3 unit(s)*

This online course will examine: (1) issues fundamental to criminological and juvenile delinquency research and practical applications; (2) the current and emerging national/international crime and delinquency issues; and (3) criminal and juvenile justice policies adopted by different countries.

**Grading:** Graded

*JS 274 - Applied Project*

*3 unit(s)*

For this project, a substantial paper of a justice agency program, justice policy, and/or organizational issue is required. The contents will be determined by the student in consultation with the instructor, with whom the student meets regularly for supervision.

**Grading:** Credit/No Credit

*JS 281 - Justice Practicum*

*1-3 unit(s)*

Supervised placement in a justice organization or agency in a position emphasizing analytical and research skills and/or managerial responsibilities. Culminating research or policy paper required.

**Prerequisite(s):** Graduate standing and graduate coordinator consent.

**Grading:** Credit/No Credit

*JS 288 - Seminar in Special Topics*

*3 unit(s)*

In-depth exploration and analysis of selected justice-related topic. Course will consider relevant theories, issues, and research on the selected topic.

**Prerequisite(s):** Graduate standing or instructor consent.  
**Grading:** Graded

*JS 297 - Program Evaluation Project*

3 unit(s)

A substantial paper/mock evaluation of a justice agency program, justice policy, or organizational issue.

**Prerequisite(s):** Completion of JS 201, JS 202, JS 203, JS 204, Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

*JS 298 - Special Study*

1-3 unit(s)

Advanced individual research not covered in a regular course and not related to the project or the thesis topic.

*Course may be repeated for credit for up to 18 units.*

**Prerequisite(s):** Instructor and Grad Coordinator permission. Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

*JS 299 - Master's Thesis*

3-6 unit(s)

Six units are required to complete the thesis and oral defense of the thesis. Required for Plan A. Must be repeated for a total of 6 semester units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Admission to candidacy for the MS degree and thesis chair consent. Not available to Open University Students.  
**Grading:** Mandatory CR/NC/RP

*JS 1290R - Thesis/Project Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class  
**Grading:** Mandatory CR/NC/RP

## Department of Political Science

**Office:** Clark Hall 471

**Telephone:** 408-924-5550

**Email:** polisci@sjsu.edu

**Website:** [www.sjsu.edu/polisci](http://www.sjsu.edu/polisci)

### **Professors**

James C. Brent  
Frances L. Edwards  
Melinda Jackson  
Kenneth B. Peters  
Lawrence Quill  
Karthika Sasikumar

### **Associate Professors**

Sergio Bejar-Lopez  
Garrick Percival, Chair

### **Assistant Professors**

Mary Currin-Percival  
Danijela Dudley  
Leonard Lira  
Matthew Record

## **Overview**

Political science majors tackle the public issues of the day as well as the timeless issues of government, public policy and the political process. The Department of Political Science offers a BA in political science and a master's degree in public administration (MPA). Our courses cover U.S. politics and public administration, public law, comparative politics, international relations and political theory. Our extensive internship program includes funded internships in Sacramento and Washington, D.C., and our students have the opportunity to participate in a Model United Nations and the honor society Pi Sigma Alpha. We arrange annual trips to the state capital and state supreme court and campus presentations by guest speakers who range from Holocaust survivors to U. S. Senators. We prepare our graduates for advanced graduate study as well as careers in law, teaching, government service, legislative staffing, political consulting, interest group representation, international relations and other fields. Contact us at 408-924-5550 or visit us at [www.sjsu.edu/polisci/](http://www.sjsu.edu/polisci/).

## **Honors Program**

The achievements of political science majors with an overall GPA of 3.20 and a 3.50 GPA in political science are recognized by the department honors program. These outstanding students are eligible to enroll in POLS 190H - Honors Thesis. Students who attain the required GPA and complete the honors thesis graduate with Honors in Political Science. Interested students should consult the department chairperson.

## **Undergraduate**

### **Political Science, BA**

The BA Political Science, offered by the Department of Political Science, provides students with an understanding of politics and the political process and prepares them for their lifelong responsibilities as citizens, as well as furthering

their skills in critical analysis and communication. The major in political science may lead to a wide variety of careers, including teaching, the law, business, and public service.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 44

Major Requirements 46-50

University Electives 26-30

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Major-Specific Graduation Requirements

Capstone course must be completed with a C- or better graduate.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (3 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

*Consult Major Advisor for department recommended coursework to meet GE requirement.*

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (46-50 units)

### Lower Division Core Courses (12 units)

- POLS 2 - Introduction to Comparative Politics 3 unit(s) (D2)
- POLS 3 - Introduction to Political Thought 3 unit(s) (C2)
- POLS 4 - Introduction to International Relations 3 unit(s) (D3)

### Complete one course (3 units):

- POLS 1 - American Government 3 unit(s) (US23)
- POLS 15 - Essentials of U.S. & California Government 3 unit(s) (D3+US23)

### Upper Division Core Courses (21-22 units)

- POLS 100W - Writing Workshop 3 unit(s) (Z)
- POLS 100M - Political Inquiry 4 unit(s) A grade of C- or better is required

### Additional Upper Division Core Courses (14-15 units)

Complete 14-15 units from the following. One course from each of the four fields is required.

#### U.S. Government and Politics (3-4 units)

Complete one course:

- POLS 102 - State Government and Politics 4 unit(s) (US3)
- POLS 103 - Local Government and Politics 4 unit(s)
- POLS 105 - Congress 4 unit(s)
- POLS 106 - The United States Presidency 4 unit(s)
- POLS 107 - Politics and Public Opinion 4 unit(s)

- POLS 108 - Political Participation *4 unit(s)*
- POLS 114 - Introduction to Public Administration *3 unit(s)*
- POLS 121A - Constitutional Law: Institutional Powers *4 unit(s)*
- POLS 122 - Judicial Politics *4 unit(s)*
- POLS 130 - American Public Policy *4 unit(s)*

### Comparative Politics (4 units)

Complete one course:

- POLS 141 - Politics of Post-Communist Countries *4 unit(s)*
- POLS 142 - African Politics *4 unit(s)*
- POLS 144 - Middle Eastern Politics *4 unit(s)*
- POLS 145 - Asian Politics *4 unit(s)*
- POLS 146 - Latin American Politics *4 unit(s)*
- POLS 147 - Globalization *4 unit(s)*
- POLS 148 - Nationalism and Comparative Political Cultures *4 unit(s)*
- POLS 149 - Comparative Public Policy and Administration *4 unit(s)*

### International Relations (4 units)

Complete one course:

- POLS 152A - International Organizations and NGOs *4 unit(s)*
- POLS 153 - European Union *4 unit(s)*
- POLS 154 - U.S. Foreign Policy: Formulation and Administration *4 unit(s)*
- POLS 155 - The Wealth of Nations *4 unit(s)*
- POLS 157 - International Security *4 unit(s)*

### Political Thought (3 units)

Complete one course:

- POLS 160A - Classical Political Thought *3 unit(s)*
- POLS 160B - Modern Political Thought *3 unit(s)*
- POLS 160C - Recent Political Thought *3 unit(s)*
- POLS 163 - American Political Thought *3 unit(s)*

### Additional Upper Division Courses (13-16 units)

#### Upper Division Electives (9-12 units)

Three additional upper division courses from POLS 102-POLS 199 (except POLS 120, POLS 150 or POLS 170V).

#### Capstone Course (4 units)

*A grade of C- or better is required.*



Complete one course:

- POLS 181C - Internship Capstone *4 unit(s)*
- POLS 190 - Senior Seminar *4 unit(s)*
- POLS 195 - Applied Research Methods *4 unit(s)*

## University Electives (26-30 units)

Students may choose Political Science or other electives.

## Total Units Required (120 units)

# Master

## Public Administration, MPA

- Admissions Requirements
- Requirements for Advancement to Graduate Candidacy
- Requirements for Graduation
- Master's Requirements (36 units)
- Program Learning Outcomes

The program leads to the professional degree of Master of Public Administration. It provides pre-service students with the knowledge and skills necessary for effective administration of local, state, and federal government agencies and of nonprofit organizations. It also offers mid-career administrators and professionals in public service an opportunity to improve their management skills and qualifications. For the convenience of students who are employed full-time, all courses are offered in the evening. Alumni assist with orientation and mentoring activities.

The MPA program, offered by the Department of Political Science, provides each student with a basic understanding of the environment of public policy and the ability to deal with:

- Political and legal institutions and processes
- Economic and social institutions and processes
- Organization and management concepts, and human resource administration
- Concepts and techniques of budgeting and financial administration
- Application of quantitative and qualitative techniques of analysis in policy and program formulation, implementation and evaluation, and decision making and problem-solving

Students also develop the ability to:

- Define and diagnose public problems, engage in supported decision-making, collect relevant data including big data, perform logical analyses, develop alternatives, implement an effective and ethical course of action, and evaluate results.
- Organize and communicate information clearly to a variety of audiences through formats including oral presentations, written memoranda and technical reports, and statistical charts, graphs, and tables.
- Recognize and value diversity and diverse viewpoints within the community, and integrate diverse view into community problem solutions.
- Apply information technology to public administration problems, including community service provision and cybersecurity of systems.

For more information on the program please go to the program's website at [www.sjsu.edu/mpa](http://www.sjsu.edu/mpa).

# Admissions Requirements

The MPA program accepts students in unclassified and classified standing. People in unclassified standing must meet all admissions requirements, but may be lacking one or more of the prerequisites for the program. These prerequisites must be completed before registering for the fifth MPA course. People admitted in classified standing have met all requirements for admission to the program.

Minimum requirements for admission to the Graduate Division are outlined in the catalog.

The MPA does not use the GRE, as it is not a good predictor of performance for people who have been in the working world for several years. The MPA program is designed for working professionals, although well qualified recent graduates may be admitted.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For the MPA a minimum score of 575 is required.

## Preparation

A bachelor's degree or its equivalent, from an accredited college or university is required. No specific undergraduate major is necessary. Preparation must include introductory courses in American government, micro-economics and statistics from an accredited community college or university, and competency in spreadsheet use. These are known as prerequisites, requirements to be met before beginning the MPA program. Deficiencies in preparation must be removed before admission to candidacy and before completion of four MPA courses. Transcripts for the baccalaureate, including from all colleges where prerequisites were taken, must be sent directly to Graduate Admissions upon applying to the program, not to the department. Transcripts for the missing prerequisites submitted after admission must go to the MPA Director directly.

## Grade Point Average (GPA) Requirements

Applicants applying directly after graduating from an undergraduate school need an overall grade point average of 3.0 in all courses, or in the last 60 units as an undergraduate, or in the major. Applicants applying three or more years after completing the BA degree need a grade point average of 2.75 overall, or in the last 60 units of undergraduate courses, or in the major. These are minimum qualifications for consideration, and may not result in admission. In addition, applicants should submit evidence of professional development, such as promotions noted on a resume or in letters of recommendation.

## Requirements for Advancement to Graduate Candidacy

Students must apply for admission to candidacy as early as possible, but no later than the last semester of their graduate program. University requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section can be found at this link.

Final date for submission in each semester may be found at the GAPE website [www.sjsu.edu/gape/current\\_students/deadlines](http://www.sjsu.edu/gape/current_students/deadlines). In addition to meeting the universitywide requirements for

advancement to candidacy, as outlined in this catalog, applicants must have submitted an approved program for the degree.

Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. Within the MPA program, PADM 210 meets the GWAR.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing PADM 210.*

### Culminating Experience

#### Plan A (with Thesis)

A thesis demonstrating the student's competence in original research and acceptable to the department must be submitted to the department at least eight weeks prior to the date on which the degree is to be awarded. This thesis must conform to university standards and be approved by the Associate Dean of Graduate Studies.

#### Plan B (with Project)

In lieu of a thesis, a student may complete an academically rigorous research project by enrolling in PADM 298 - Special Problems. In PADM 298 the student will complete a substantial paper under faculty supervision to complete the project component of Plan B.

### Master's Requirements (36 units)

#### Core Courses (15 units)

The courses form a base of knowledge and skills that prepare students for advanced seminars. Students must complete these courses before taking PADM 298.

Complete fifteen units from:

- PADM 210 - Introduction to Public Administration 3 *unit(s)* (GWAR)
- PADM 212 - Administrative Research Methods 3 *unit(s)*
- PADM 213 - Policy Analysis and Evaluation 3 *unit(s)*
- PADM 214 - Introduction to Public Management 3 *unit(s)*

- PADM 218 - Public Budgeting 3 *unit(s)*

## Advanced Seminars Electives (9-18 units)

Complete three courses from:

- PADM 202 - Regional Governance 3 *unit(s)*
- PADM 215 - Public Personnel Administration 3 *unit(s)*
- PADM 217 - Organizational Theory 3 *unit(s)*
- PADM 219 - Public Financial Administration 3 *unit(s)*
- PADM 220 - Non-Profit Management 3 *unit(s)*
- PADM 223 - Law and Public Administration 3 *unit(s)*
- PADM 228 - Urban Community Development 4 *unit(s)*
- PADM 240 - Environmental Planning 4 *unit(s)*
- PADM 295 - Topics in Public Administration 3 *unit(s)*

## Additional Electives (0-9 units)

Depending on thesis or project arrangements, electives may include additional MPA courses

- PADM 281 - Public Administration Internship 3 *unit(s)*
- PADM 284 - Directed Reading 1-3 *unit(s)* (or approved 100- or 200-level courses in political science or other departments, up to a maximum of 9 units)

## Culminating Experience (3 units)

**Complete One Option (Plan A or Plan B):**

### Plan A (with Thesis) (3 units)

- PADM 299 - Master's Thesis 3 *unit(s)*

### Plan B (with Project)

- PADM 298 - Special Problems 3 *unit(s)*

## Total Units Required (36 units)

No more than six units of 100-level course work may be applied towards the MPA degree.

No more than six units of transfer credit from other universities may be applied toward the MPA degree.

Students who do not have substantial management work experience related to the curriculum are required to register for PADM 281 and complete an appropriate internship.

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Applied Research Methods Minor

The interdisciplinary Minor in Applied Research Methods (ARM) is designed to prepare students for careers involving social research and data analysis. The ARM Minor provides students with a broad understanding of research methods, including both quantitative and qualitative approaches and techniques such as surveys, experiments, interviews, focus groups, ethnography, and content analysis. Students in the ARM Minor will learn to apply these research skills to socially relevant issues, combining theoretical background with hands-on skills practice. The ARM Minor provides an ideal complement to the programs of students from a variety of social sciences, business, and applied sciences and arts disciplines.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Preparation (3 units)

##### Introductory Statistics (3 units)

Complete one course from:

- STAT 95 - Elementary Statistics *3 unit(s) (B4)*
- PH 67 - Introductory Health Statistics *3 unit(s) (B4)*
- JS 15 - Introductory Statistics in Justice Studies *3 unit(s) (B4)*
- SOCI 15 - Statistical Applications in the Social Sciences *3 unit(s) (B4)*
- UNVS 15S - Statway Part B: Statistics-Concepts & Methods *3 unit(s) (B4) (UNVS 15S Prerequisite: UNVS 15F with grade of C- or better or concurrent enrollment in UNVS 1015W) (Or other introductory statistics course approved by Minor Coordinator)*

#### Minor Requirements (12-16 units)

##### Intermediate Statistics (3-4 units)

Complete one course from:

- ECON 103 - Intro to Econometrics *4 unit(s)*
- MATH 161A - Applied Probability and Statistics I *3 unit(s)*
- STAT 115 - Intermediate Statistics *3 unit(s)*

##### Quantitative Methods (3-4 units)

Complete one course from:

- COMM 155I - Quantitative Communication Inquiry *4 unit(s)*

- ECON 108 - Cost-Benefit Analysis *4 unit(s)*
- JS 114 - Research Methods in Justice Studies *3 unit(s)*
- MATH 161B - Applied Probability and Statistics II *3 unit(s)*
- POLS 100M - Political Inquiry *4 unit(s)*
- PSYC 117 - Psychological Tests and Measures *3 unit(s)*
- SOCI 104 - Quantitative Research Methods *3 unit(s)*

## Qualitative Methods (3-4 units)

Complete one course from:

- ANTH 149 - Ethnographic Methods *3 unit(s)*
- COMM 156I - Observation and Interviewing Methods *4 unit(s)*
- COMM 111P - Interviewing *4 unit(s)*
- COMM 121P - Performance as Practice *4 unit(s)*
- COMM 150I - Inquiry in Organizational Communication *4 unit(s)*
- COMM 151I - New Media/New Methods *4 unit(s)*
- GEOG 135 - Qualitative Methods in Geographical Research *3 unit(s)*
- JS 117 - Qualitative Research Methods *3 unit(s)*
- SOCI 105 - Qualitative Research Methods *3 unit(s)*

## Applied Research Methods Electives (3-4 units)

Complete one course from:

- ANTH 105 - Applied Anthropology *3 unit(s)*
- ENVS 110 - Resource Analysis *4 unit(s)*
- GEOG 170 - Introduction to Mapping and Geographic Information Systems *3 unit(s)*
- ORGS 102 - Organizations, Inquiry & Analysis *4 unit(s)*
- POLS 195 - Applied Research Methods *4 unit(s)*

## Total Units Required (12-16 units)

# Political Science Minor

Students majoring in a wide variety of fields find a minor in political science interesting and useful, providing knowledge and skills that enhance their careers, improve their citizenship and cultivate their minds. The minor appeals especially to students in the other social sciences or in business, journalism or administration of justice, although many others also use the minor to broaden their education. Political Science department advisors help students customize their programs to support their special interests. A minimum of six units must be completed in residence to satisfy the requirements for a political science minor. The minimum requirements are:

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

## Lower Division Courses (6 units)

Complete One Course From:

- POLS 1 - American Government 3 *unit(s)* (US23)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

Complete One Course From:

- POLS 2 - Introduction to Comparative Politics 3 *unit(s)* (D2)
- POLS 3 - Introduction to Political Thought 3 *unit(s)* (C2)
- POLS 4 - Introduction to International Relations 3 *unit(s)* (D3)

## Upper Division Electives (12 units)

Twelve additional upper division units from POLS 102-POLS 199.

Total Units Required (18 units)

# Public Administration and Public Policy Minor

The Public Administration and Public Policy minor provides a structured introduction to the practice of government. This minor appeals especially to students who are interested in exploring careers in the public, private, or non-profit sectors that involve policy development, advocacy, and evaluation, or government relations. This minor compliments the Political Science major, as well as other majors across the social sciences, business, journalism, justice studies, social work, and many other disciplines.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (3 units)

Complete one course from:

- POLS 1 - American Government 3 *unit(s)* (US23)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Minor Requirements (15 units)

- POLS 114 - Introduction to Public Administration 3 *unit(s)*
- POLS 130 - American Public Policy 4 *unit(s)*

Complete Two Courses From:

- POLS 102 - State Government and Politics *4 unit(s) (US3)*
- POLS 103 - Local Government and Politics *4 unit(s)*
- POLS 121A - Constitutional Law: Institutional Powers *4 unit(s)*
- POLS 149 - Comparative Public Policy and Administration *4 unit(s)*
- POLS 181 - Internships *4 unit(s)*

## Total Units Required (18 units)

### *PADM 202 - Regional Governance*

*3 unit(s)*

An exploration of current theories, practices, issues and problems in the governance of urban regions in the United States.

**Prerequisite(s):** POLS 1, PADM 210.

**Grading:** Graded

### *PADM 210 - Introduction to Public Administration*

*3 unit(s)*

A broad overview of public administration, including policy analysis, budgeting, personnel, organization, leadership, decision-making and ethics in a political environment. Examination of the theory and application of public management practices at all levels of government.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

### *PADM 212 - Administrative Research Methods*

*3 unit(s)*

The study and application of principles and methods of social science research and evaluation in a public administration context. Emphasis on learning research designs and using statistics and computers.

**Prerequisite(s):** Statistics.

**Grading:** Graded

### *PADM 213 - Policy Analysis and Evaluation*

*3 unit(s)*

An examination of the application of analytical and administrative tools to solving public problems. Study of the processes of policy formulation and the research and political tools necessary to assess program effectiveness.

**Prerequisite(s):** Statistics.

**Grading:** Graded

### *PADM 214 - Introduction to Public Management*



3 unit(s)

A study of current principles and practices of effectively managing public service organizations. Emphasis on critical thinking, project management, and implementation processes.

**Prerequisite(s):** Statistics.

**Grading:** Graded

*PADM 215 - Public Personnel Administration*

3 unit(s)

An overview of personnel management in a political environment and its role in maintaining a democratic society. Methods and problems of job analysis, compensation, staffing, EEO, evaluation, training and union relations.

**Prerequisite(s):** PADM 210.

**Grading:** Graded

*PADM 217 - Organizational Theory*

3 unit(s)

Analysis and application of theories about organizations, including organizational goals, structures, authority, leadership, decision patterns and communications. Emphasis on methods of change and differences between the public and private sectors.

**Prerequisite(s):** PADM 210.

**Grading:** Graded

*PADM 218 - Public Budgeting*

3 unit(s)

A study of current theory, techniques and practice of public budgeting for political decision-making, planning and management. Focus on executive and legislative budget processes, reform efforts, public choice analysis, financial processes and the role of accounting.

**Prerequisite(s):** PADM 210; ECON 1A (or equivalent).

**Grading:** Graded

*PADM 219 - Public Financial Administration*

3 unit(s)

An overview of public financial administration, including microeconomic concepts and techniques, tax theory and policy, user charges, inter-governmental transfers, debt administration and risk management in a political environment.

**Prerequisite(s):** PADM 218.

**Grading:** Graded

*PADM 220 - Non-Profit Management*

3 unit(s)

Focuses primarily on internal nonprofit management issues in the U.S. context; course exposes students to core and emerging theories for a range of topics related to nonprofit management, including leadership, governance, accountability, performance management, resource development and financial management.

**Prerequisite(s):** PADM 210, PADM 218  
**Grading:** Graded

*PADM 223 - Law and Public Administration*

3 unit(s)

An overview of legal and political processes affecting relationships among the public, government institutions, administrative agencies and the courts. Focus on major cases related to administrative agency use of rules and orders to implement public policy.

**Prerequisite(s):** POLS 1 and PADM 210  
**Grading:** Graded

*PADM 228 - Urban Community Development*

4 unit(s)

The role, objectives and policies of the urban community development process; the social, economic, political and physical implications underlying community development programs; and relationships of these programs to comprehensive urban planning.

**Grading:** Graded

*PADM 240 - Environmental Planning*

4 unit(s)

Examination of the fundamental concepts and issues related to urban environment that planners face. Focus on land use and open space planning, planning and use of urban resources, interactions of urban residents and the physical environment, and the role of government in formulating appropriate policies and strategies.

**Grading:** Graded

*PADM 281 - Public Administration Internship*

3 unit(s)

Supervised practical experience in public administration. Focus on integrating student work experiences with the academic program by means of seminars and consultation.

**Prerequisite(s):** Instructor consent.  
**Grading:** Credit/No Credit

*PADM 284 - Directed Reading*

1-3 unit(s)

Program of reading and writing created through student/faculty consultation in areas not covered by other courses. Repeatable for credit for a maximum of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Appropriate courses, instructor consent and department chair consent.  
**Grading:** Graded

*PADM 295 - Topics in Public Administration*

3 unit(s)

An exploration of current theories, problems and techniques in a selected major topic of current importance in public administration.

**Grading:** Graded

*PADM 297 - Advanced Seminar in Public Management*

3 unit(s)

This course serves as the "capstone" of the MPA program. It uses an analysis of real world cases to relate principles and theories of public administration to concrete, real world problems. The individual subject papers dealing with the main class topic that earn a grade of A- or better will be published as a electronic journal. The culminating project for this class is the approved prospectus for the PADM 298 project.

**Prerequisite(s):** Classified standing.

**Grading:** Graded

*PADM 298 - Special Problems*

3 unit(s)

Advanced individual research and projects.

**Prerequisite(s):** PADM 210, PADM 212, PADM 213, PADM 214, PADM 218; instructor consent; consent of the chair.

**Grading:** Mandatory CR/NC/RP

*PADM 299 - Master's Thesis*

3 unit(s)

Independent research conducted under the supervision of a permanent faculty member and two other qualified persons. Emphasis on applying administrative concepts and analytical skills to actual problems of policy and administration in the public sector.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mandatory CR/NC/RP

**Note(s):** Repeatable once for credit.

*PADM 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*POLS 1 - American Government*

3 unit(s)

Institutions and processes of American government and democracy; the U.S. Constitution and California state and local government. American Institutions Requirement: US2 and US3

*Satisfies American Institutions US2+3: US Constitution and California Government*

**Grading:** Graded

**Note(s):** Satisfies American Institutions requirements in American and California government.

*POLS 2 - Introduction to Comparative Politics*

3 unit(s)

Comparative analysis of different kinds of political systems; their political institutions, processes and policies; the environments in which they occur and their consequences.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*POLS 3 - Introduction to Political Thought*

3 unit(s)

Thinking critically about the classic problems of politics; learning how to interpret, discuss and write about historical and contemporary political thought.

*Satisfies C2: Letters*

**Grading:** Graded

*POLS 4 - Introduction to International Relations*

3 unit(s)

Introductory survey of major topics in international relations, including global, national and individual causes of war and peace, international cooperation, north-south relations and political economy.

*Satisfies D3: Social Issues/Ethnic Studies*

**Grading:** Graded

*POLS 15 - Essentials of U.S. & California Government*

3 unit(s)

Treatment of essentials of U.S. and California government. Satisfies the American Institutions requirements in U.S. Constitution (US2) and California Government (US3), and the Core GE requirement in Social Sciences: Social Issues (D3).

*Satisfies D3+US23: Social Issues and US Constitution and California Government*

**Grading:** Graded

*POLS 20 - Controversial Legal Issues*

3 unit(s)

Basic concepts in critical thinking as demonstrated in legal reasoning and analysis of contemporary legal issues possibly including abortion, drug testing, offensive speech, affirmative action, gender and sexual preference discrimination, school prayer and pornography.

*Satisfies A3: Critical Thinking*

**Prerequisite(s):** Completion of GE Areas A1 and A2 each with grades of C- or better

**Grading:** Graded

*POLS 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*POLS 100M - Political Inquiry*

4 unit(s)

Introduction to the scope and methods of political science. Beginning with research design, measurement, and ethical considerations, and including a variety of research methods including surveys, experiments, interviews, fieldwork, content analysis, and an introduction to quantitative and qualitative analysis.

**Grading:** Graded

**Note(s):** Should be taken junior year.

*POLS 100W - Writing Workshop*

3 unit(s)

Writing skills for majors in political science. Basic materials; research; memos and research reports, press releases, analyses of political/electoral behavior, political speeches. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*POLS 101 - American Government for Teachers*

3 unit(s)

Introduction to the institutions and processes of American and California governments with emphasis on meeting CCTC Teacher Preparation Standards. Topics include U.S. Constitution, federalism, political participation, civil rights and liberties, Congress, the presidency.

**Grading:** Graded

*POLS 102 - State Government and Politics*

*4 unit(s)*

This course examines the politics and institutions of U.S. state governments. The structure and powers of state legislatures, governors, and court systems are analyzed. The effect of states' racial, ideological, and economic characteristics on public policy is also explored. American Institutions Requirement: US3

*Satisfies American Institutions US3: California Government*

**Grading:** Graded

**Note(s):** Satisfies American Institutions requirement in California government.

*POLS 103 - Local Government and Politics*

*4 unit(s)*

Offers a theoretical and practical study of local politics and government. The structure, role, and functions of city and county governments are examined. Students gain knowledge of the resources and skills required for effective citizenship in their communities.

**Grading:** Graded

*POLS 105 - Congress*

*4 unit(s)*

Examines politics and policymaking in the U.S. Congress. Topics include party leadership, interest groups in Congress, congressional committees, political representation, redistricting and congressional elections, party polarization, and the process of how a bill becomes law.

**Grading:** Graded

*POLS 106 - The United States Presidency*

*4 unit(s)*

Examination of the American presidency. Topics include the historical emergence of the presidency as an institution, the formal and informal powers of the modern presidency, and the tension between the presidency and other federal institutions, most notably Congress.

**Grading:** Graded

*POLS 107 - Politics and Public Opinion*

*4 unit(s)*

Examines the measurement and impact of public opinion on the democratic political process. The effects of socialization, media, and ideology on public opinion are explored, as well as the state of American public opinion on current political issues.

**Grading:** Graded

*POLS 108 - Political Participation*

4 unit(s)

Explores various forms of political participation including voting, community engagement, and social change. Includes consideration of the roles that socialization, media, campaign and elections, and other social and technological factors play in shaping citizen participation.

**Grading:** Graded

*POLS 109 - Women and Politics*

4 unit(s)

Examines social movement strategies and theories of gender and power employed by differently situated women. Includes critical examination of the relationship between sex and gender, and intersections of race, class, gender, law and nation.

**Grading:** Graded

*POLS 110 - Race and Politics*

4 unit(s)

Examines race and politics in America by focusing on political participation and social movement strategies among minoritized groups. Explores theories of equality, diversity, and justice, and the changing legal relationship between states and citizens.

**Grading:** Graded

*POLS 114 - Introduction to Public Administration*

3 unit(s)

A broad overview of the theory and practice of public policy analysis and management in the modern context. Topics include aspects of organizational theory, leadership, budgeting, finance, personnel management, problem formulation, analysis and decision making in a political environment.

**Grading:** Graded

*POLS 120 - Law and Society*

3 unit(s)

Social and philosophical foundations of law and legal systems and development of legal institutions in various cultures. Anglo-American law and administration of justice in the U.S. emphasized. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*POLS 121A - Constitutional Law: Institutional Powers*

4 unit(s)

Examines the U.S. Supreme Court, its processes, and the role it plays in the American governing system. Examination of judicial policy making through cases on judicial review, separations of powers, federalism, commerce, and tax and treaty powers.

**Grading:** Graded

*POLS 121B - Constitutional Law: Civil Liberties*

4 unit(s)

Explores the constitutional basis for civil liberties in America. Application of methods of constitutional analysis to cases involving freedom of speech, religion, and the press. Examination of personal privacy rights including abortion, gun rights, and criminal procedures.

**Grading:** Graded

*POLS 121C - Constitutional Law: Civil Rights*

4 unit(s)

Explores the constitutional basis for civil rights in America. Application of methods of constitutional analysis to cases involving discrimination, equal protection, and due process. Examination of leading cases related to voting rights, affirmative action, criminal justice, and other issues

**Grading:** Graded

*POLS 122 - Judicial Politics*

4 unit(s)

Examines the effects of political forces on judicial behavior. Includes consideration of the roles of interest groups, public opinion, methods of selecting judges, and the importance of judges' personal political beliefs, on judicial decisions.

**Grading:** Graded

*POLS 124 - Introduction to Environmental Law*

3 unit(s)

Development, interpretation, application and enforcement of environmental laws, regulations and legal policies by legislatures, courts, administrative agencies and citizens. Examination of air and water quality, hazardous materials, workplace, land use and wetlands regulation, international, ethical and efficacy issues.

**Prerequisite(s):** ENVS 1 or Instructor Consent.

**Grading:** Graded

*POLS 130 - American Public Policy*

4 unit(s)

Introduces students to the public policy making process in the American governing system. The politics of agenda setting, policy formulation, and policy implementation are examined. Students learn to analyze and evaluate public policy outcomes.

**Grading:** Graded



*POLS 135 - U.S. Environmental Policy*

3 unit(s)

Inquiry focuses on state of the environment, public attitudes toward the problem, interest groups involved in formulation of policy, the response of government leaders to the problem and what the future outlook is for addressing the agenda.

**Grading:** Graded

*POLS 141 - Politics of Post-Communist Countries*

4 unit(s)

Political development and change in countries that have transitioned from communist or socialist systems such as Russia, Eastern Europe, Central Asia, and the Caucasus; internal politics of these countries and relations with other countries.

**Grading:** Graded

*POLS 142 - African Politics*

4 unit(s)

Basic concepts, theoretical perspectives, and information to understand the evolution of contemporary African states. Begins with a study of colonialism, and proceeds to nationalism, personalistic and military rule, development, democratization, and inter-state and civil war.

**Grading:** Graded

*POLS 144 - Middle Eastern Politics*

4 unit(s)

Study of unfolding events in the Middle East. Themes include: the failure of democratic movements, nuclear proliferation and terrorism, US foreign policy towards the region, the Israel-Palestine conflict, urbanization, gender and human rights.

**Grading:** Graded

*POLS 145 - Asian Politics*

4 unit(s)

Study of unfolding events in Asia. Themes include: the Asian economic 'miracle,' the implications of China's rise for international security, nuclear proliferation and terrorism, and sustainability; specifically, energy, environment and human rights.

**Grading:** Graded

*POLS 146 - Latin American Politics*

4 unit(s)

Survey of the political systems of Latin American countries. Places Latin American countries in a global perspective. Major themes include: civil-military relations, democratization, economic development, social movements, and foreign relations both within and outside Latin America.

**Grading:** Graded

*POLS 147 - Globalization*

4 unit(s)

Considers the impact of economic and political globalization, focusing primarily on nations in Latin America, Asia and Africa. Issues include the effects of multinational production, migration, aid, international institutions and humanitarian intervention.

**Grading:** Graded

*POLS 148 - Nationalism and Comparative Political Cultures*

4 unit(s)

Comparative analysis of the origin, nature, and impact of nationalism on the politics of Western and non-Western states. Students examine cases where nationalism resulted in conflict, and those in which it supports a stable nation-state. Completion of POLS 2, POLS 3 and POLS 4 highly recommended before enrolling.

**Grading:** Graded

*POLS 149 - Comparative Public Policy and Administration*

4 unit(s)

Ideologies, institutions and public policy making in a comparative context. Policy making process in various countries, from emerging issues to choices to implementation and subsequent impact on political systems.

**Grading:** Graded

*POLS 150 - War and Peace*

3 unit(s)

Fundamental human questions about causes of war, definitions of peace and approaches toward achieving peace from perspectives of historical and contemporary thinkers, including philosophers, political leaders, military strategists and diplomats. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not counted as a core course in the international relations subfield.

*POLS 152A - International Organizations and NGOs*

4 unit(s)

Examines the structures and functions of different types of international organizations (such as the UN, NATO, regional organizations, and non-governmental organizations), and their role in maintaining international peace and security, promoting human rights and economic development, and protecting the environment.

**Grading:** Graded

*POLS 152B - Model United Nations*

4 unit(s)

Structure and operations of the United Nations explored and analyzed through participation in annual U.N. simulation.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** POLS 152A

**Grading:** Credit/No Credit

*POLS 153 - European Union*

4 unit(s)

Surveys and analyzes the historical evolution, the institutions, as well as the process of policy making in the European Union. Examines key policy areas: agricultural, social, economic, environmental, and foreign policy.

**Grading:** Graded

*POLS 154 - U.S. Foreign Policy: Formulation and Administration*

4 unit(s)

Consideration of the factors that shape American foreign policy making, including ideology, organization, as well as partisanship, interest groups, and public opinion. Issues considered include relations with the Middle East and Russia, and economic diplomacy.

**Grading:** Graded

*POLS 155 - The Wealth of Nations*

4 unit(s)

This course examines how states, international and multinational bodies, and global social movements shape trade, financial, and labor relations. Topics include: international trade and protectionism, the International Monetary Fund and the World Bank, regional integration, and transnational corporations.

**Grading:** Graded

*POLS 156 - Islam, Politics and the West*

3 unit(s)

An in-depth look at the roots of Islamic tradition, law, politics, culture, and society. Emphasis on Islam's growing global prominence; relations with the West; stereotypes and misconception, as well as the nature of the Islamic state.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*POLS 157 - International Security*

4 unit(s)

Examines theories of international security, debates over sources, conduct and termination of conflict, including but

not limited to inter-state war; security decision-making; military and economic strategy; crisis management; regional security; intelligence; new and complex security issues along the war-peace continuum.

**Grading:** Graded

*POLS 160A - Classical Political Thought*

3 unit(s)

Critical examination of the foundations of Western political thought and the continuing influence of these foundations; sources chosen from among a variety of pre-Renaissance traditions and include writers such as Plato, Aristotle, Augustine and Aquinas.

**Grading:** Graded

*POLS 160B - Modern Political Thought*

3 unit(s)

The basis of the modern state and society as interpreted by political thought between (and including) the Renaissance and the French Revolution; this key period includes writers such as Machiavelli, Hobbes, Locke and Rousseau.

**Grading:** Graded

*POLS 160C - Recent Political Thought*

3 unit(s)

The roots of today's politics in the ideas and writers of the nineteenth and twentieth centuries; sources drawn from a variety of recent traditions such as democratic theory, Marxism, political psychology and political sociology.

**Grading:** Graded

*POLS 163 - American Political Thought*

3 unit(s)

Critical examination of the origins and development of American politics as seen through theorists, concepts and forces which have shaped American political consciousness.

**Grading:** Graded

*POLS 170V - American Politics in Global Perspective*

3 unit(s)

A survey of U.S. and California political institutions and culture in comparison with political institutions and cultures outside the U.S. GE Area: V, as well as American Institutions Requirement: US2 and US3.

*Satisfies SJSU Studies V + US23: Culture, Civilization & Global Understanding + US Constitution and California Government.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*POLS 177 - Political Psychology*

4 unit(s)

Introduction to the interdisciplinary field of political psychology, with a focus on topics including personality and leadership, political cognition, social identity, emotions and attitudes, voting and political behavior, racism and ethnocentrism, ethnic conflict and genocide, nationalism, terrorism, and conflict resolution.

**Prerequisite(s):** POLS 1 (or other US2-3), PSYC 1, or instructor consent

**Grading:** Graded

*POLS 180 - Individual Studies*

1-4 unit(s)

Individual study for advanced work in areas where no courses are offered.

**Prerequisite(s):** Appropriate courses, instructor consent and department chair consent.

**Grading:** Credit/No Credit

*POLS 181 - Internships*

4 unit(s)

Offers students the opportunity to connect knowledge of politics, government, and policy making learned in the classroom to real life application through internships with elected officials, non-profit organizations, government agencies, or political campaigns.

**Prerequisite(s):** POLS 100W and instructor consent.

**Grading:** Credit / No Credit

*POLS 181C - Internship Capstone*

4 unit(s)

Application of knowledge of politics, government, and policy making through internships with elected officials, non-profit organizations, government agencies, or political campaigns. Students complete a major capstone paper.

**Prerequisite(s):** POLS 100W and POLS 100M, and instructor consent. A minimum grade of C- is required to fulfill the BA Political Science capstone requirement.

**Grading:** Graded

*POLS 184 - Directed Reading*

1-4 unit(s)

Program of reading and writing created through student/faculty consultation in areas not covered by other courses. Course is not repeatable for credit.

**Prerequisite(s):** Appropriate courses, instructor consent and department chair consent.

**Grading:** Graded

*POLS 190 - Senior Seminar*

4 unit(s)

Culminating experience for the political science major. Seminar class with significant participation required. Specific course topics vary each semester.

*Repeatable for credit.*

**Prerequisite(s):** POLS 100W and POLS 100M, or instructor consent. A minimum grade of C- is required to fulfill the BA Political Science capstone requirement.

**Grading:** Graded

*POLS 190H - Honors Thesis*

1 unit(s)

Preparation and writing of an original project.

**Prerequisite(s):** Senior standing. 3.2 GPA and instructor consent.

**Grading:** Graded

*POLS 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*POLS 195 - Applied Research Methods*

4 unit(s)

Applied research methods in the social sciences, with a focus on quantitative analysis. Survey methods, descriptive statistics and statistical inference, and the relationships between two or more variables. Quantitative research project (typically a project initiated in their Political Science 100M course).

**Prerequisite(s):** POLS 100W, POLS 100M and instructor approval.

**Grading:** Graded

**Note(s):** A minimum grade of C- is required to fulfill the BA Political Science capstone requirement.

*POLS 199 - Current Political Issues*

1-3 unit(s)

Major political issues of the day. Topics vary each semester. Course is repeatable for credit with instructor consent.

**Grading:** Graded

*POLS 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

## Department of Psychology

**Office:** Dudley Moorhead Hall 157

**Telephone:** 408-924-5600

**Email:** [psychology@sjsu.edu](mailto:psychology@sjsu.edu)

**Website:** [www.sjsu.edu/psych](http://www.sjsu.edu/psych)

### **Professors**

Arlene Asuncion  
Glenn Callaghan  
Cheryl Chancellor-Freeland  
Gregory Feist  
Jennifer Gregg  
Lynda Heiden  
Megumi Hosoda  
Laree A. Huntsman  
Elena Klaw  
Sean Laraway  
Clifton Oyamoto, Chair  
Annabel Prins  
Howard Tokunaga  
Mark Van Selst

### **Associate Professors**

Mildred Alvarez  
Shinchieh Duh  
Cary Feria  
Evan Palmer  
Altovise Rogers  
David Schuster  
Susan Snycerski  
Erin Woodhead

### **Assistant Professors**

Matthew Capriotti  
Valerie Carr  
Christine Ma-Kellams

## **Overview**

The Department of Psychology seeks to develop skilled critical thinkers who use their knowledge of the principles of human behavior, cognition, and emotion to work and live effectively and fully in a multicultural global society. Our curriculum covers the major areas in the field of psychology to help students understand the complexities of human thought and behavior in a sociocultural context. In addition, the Department provides students with training in research methods, statistics, and scientific writing. Psychology students have opportunities to gain practical experience by working with our faculty in research labs, community outreach projects, Silicon Valley companies, and so on. The Department offers a BA in Psychology, a BS in Psychology, a minor in Human Systems Integration, a minor in Psychology, an MA in Research and Experimental Psychology, an MS in Clinical Psychology, and an MS in Industrial and Organizational Psychology. Detailed information about our faculty, students, and programs may be found on our website at [www.sjsu.edu/psych](http://www.sjsu.edu/psych).

# Psychology Honors Program

Students requesting departmental honors in psychology will be evaluated against the following criteria at graduation: (1) a minimum aggregate GPA of 3.5 across all psychology course work; (2) evidence of distinguished scholarly work, as indicated by the completion of a BA thesis (PSYC 199), the honors seminar (PSYC 195), or work leading to a published paper or presentation at a professional meeting. Contact a psychology advisor for details.

## Undergraduate

### Psychology, BA

The undergraduate degree, offered by the Department of Psychology, assures a broad coverage of the major areas of content and methods in psychology identified by the American Psychological Association as the backbone of a strong degree program. The goal of the breadth part of the degree requirements is to provide a strong background in general psychology. In addition, sufficient flexibility is offered through choices in fulfilling these requirements and through the electives so that students, in consultation with their advisors, can design a program of study which focuses on each student's particular area of interest.

A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses (e.g., BIOL 21 or BIOL 65 is a prerequisite to PSYC 30, STAT 95 is a prerequisite for PSYC 100W, PSYC 100W is a prerequisite for PSYC 120, PSYC 120 is also a pre- or co-prerequisite for PSYC 190/PSYC 195). Use the advisor's expertise and the MyGPS planning tools for GE, SJSU Studies, and American Institutions course selection and to ensure a strong foundation for future coursework. Seeking advising is especially important to those at risk for probation, those in the honors program, and those planning to go on to graduate school in psychology. The two and four year planners give additional guidance in designing a particular program of study including suggestions about the order in which to take classes even if they are not governed by official prerequisite requirements. All of these materials as well as the extra coursework and other requirements for Departmental Honors are available on the department website [www.sjsu.edu/psych](http://www.sjsu.edu/psych) or the department office.

Once declared as a psychology major, there are no minimum grade requirements for the major other than a C- or better for the lower division statistics requirement and an overall 2.0 average across the courses in the major (i.e., a D- can "count" towards meeting psychology requirements even if it does not count towards General Education requirements).

The lower division biology requirement cannot be met with BIOL 20 - Ecological Biology nor the online version of BIOL 65O - Human Anatomy.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	41
Major Preparation	3-4
Major Requirements	48
University Electives	27-28
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation



Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (3-4 units)

Complete one course from:

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2+B3)

## Major Requirements (48 units)

### Lower Division Core (12 units)

- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- PSYC 18 - Introduction to Research Methods 3 *unit(s)*
- PSYC 30 - Introductory Psychobiology 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major. A grade of C- or better is required to meet this statistics requirement.)

### Upper Division Core (27 units)

- PSYC 100W - Writing Workshop 3 *unit(s)* (Z)
- PSYC 118 - Advanced Research Methods in Psychology 3 *unit(s)*

### Complete One Course From:

- PSYC 102 - Psychology of Childhood 3 *unit(s)*
- PSYC 112 - Psychology of Adolescence 3 *unit(s)*
- PSYC 114 - Psychology of Aging 3 *unit(s)*

### Complete Two Courses From:

- PSYC 129 - Neuroscience 3 *unit(s)*
- PSYC 135 - Cognition 3 *unit(s)*
- PSYC 155 - Human Learning 3 *unit(s)*
- PSYC 158 - Perception 3 *unit(s)*

### Complete One Course From:

- PSYC 110 - Adult Psychopathology 3 *unit(s)*
- PSYC 142 - Child Psychopathology 3 *unit(s)*

### Complete One Course From:

- PSYC 139 - Psychology of Personality 3 *unit(s)*
- PSYC 154 - Social Psychology 3 *unit(s)*

### Complete One Course From:

- PSYC 117 - Psychological Tests and Measures 3 *unit(s)*
- STAT 115 - Intermediate Statistics 3 *unit(s)*

### Complete One Course From:

- PSYC 190 - Current Issues Capstone 3 *unit(s)*
- PSYC 195 - Honors Seminar in Psychology 3 *unit(s)*

### Psychology Electives (9 units)

- Three units of upper or lower division psychology courses 3 *unit(s)*
- Six units of upper division psychology courses 6 *unit(s)*

### University Electives (27-28 units)

### Total Units Required (120 units)

## Psychology, BS

The BS degree is a regimented degree plan for students who wish to develop a focused set of skills in research focused scientific and methodological training. The BS degree program, offered by the Department of Psychology, has more course requirements than the BA (i.e., fewer electives). Students should seek early and frequent advice from departmental advisors.

A carefully prepared multi-year program of study will ensure an appropriate sequencing of required courses (e.g., BIOL 21 or BIOL 65 is a prerequisite for PSYC 30, STAT 95 is a prerequisite for PSYC 100W, PSYC 100W is a prerequisite for PSYC 120, PSYC 120 is a prerequisite for PSYC 121A-PSYC 121E, and PSYC 120 is also a pre- or

co-prerequisite for PSYC 190/PSYC 195). Use the advisor's expertise for GE, SJSU Studies, and American Institutions course selection and to ensure a strong foundation for future coursework. Seeking advising is especially important for those in the honors program or those planning to go on to research-oriented graduate programs in psychology. The two and four-year planners give additional guidance in designing a particular program of study including suggestions about the order in which to take classes even if they are not governed by official prerequisite requirements. All these materials as well as the requirements for Departmental Honors (BA or BS Psychology) are available from [www.sjsu.edu/psych](http://www.sjsu.edu/psych) or the department office.

There are no minimum grade requirements for coursework in the major other than a C- or better for the lower division statistics requirement and an overall 2.0 average across the courses in the major (i.e., a D- can "count" towards meeting psychology requirements even if it does not count towards General Education requirements).

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 32

Major Preparation 12-18

Major Requirements 55

University Electives 15-21

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (32 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (12-18 units)

Complete one course from:

- BIOL 21 - Human Biology 3 *unit(s)* (B2+B3)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2+B3)

## Complete Three Courses From

Complete three courses from (no more than two from each department):

*CHEM 1A or CHEM 30A, but not both*

*CHEM 1B or CHEM 30B, but not both.*

- BIOL 101 - Origins of Life 3 *unit(s)* (R)
- BIOL 109 - Human Neuroanatomy and Physiology 4 *unit(s)*
- LING 123 - Sound and Communication 3 *unit(s)* (R)
- LING 161 - Psycholinguistics 3 *unit(s)*
- PHIL 110 - Science, Technology and Human Values 3 *unit(s)* (V)
- PHIL 133 - Ethics in Science 3 *unit(s)* (V)
- PHIL 160 - Philosophy of Science 3 *unit(s)* (R)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 30A - Introductory Chemistry 3 *unit(s)* (B1+B3)
- CHEM 30B - Introductory Chemistry 3 *unit(s)*

## Major Requirements (55 units)

### Lower Division Core (9 units)

- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)
- PSYC 30 - Introductory Psychobiology 3 *unit(s)*
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)

### Upper Division Core (41 units)

- PSYC 100W - Writing Workshop 3 *unit(s)* (Z)
- PSYC 102 - Psychology of Childhood 3 *unit(s)*
- PSYC 110 - Adult Psychopathology 3 *unit(s)*
- PSYC 117 - Psychological Tests and Measures 3 *unit(s)*
- PSYC 120 - Advanced Research Methods and Design 4 *unit(s)*
- PSYC 139 - Psychology of Personality 3 *unit(s)*
- PSYC 154 - Social Psychology 3 *unit(s)*
- STAT 115 - Intermediate Statistics 3 *unit(s)*

### Complete One Course From:

- PSYC 129 - Neuroscience 3 *unit(s)*
- PSYC 160 - Clinical Psychology 3 *unit(s)*
- PSYC 170 - Industrial and Organizational Psychology 3 *unit(s)*

### Complete Two Courses From:

- PSYC 135 - Cognition 3 *unit(s)*
- PSYC 155 - Human Learning 3 *unit(s)*
- PSYC 158 - Perception 3 *unit(s)*

### Complete Two Courses From:

- PSYC 121A - Advanced Research Methods Social/Personality Laboratory 2 *unit(s)*
- PSYC 121B - Advanced Research Methods: Cognition/Perception 2 *unit(s)*
- PSYC 121C - Advanced Research Methods: Clinical Laboratory 2 *unit(s)*
- PSYC 121E - Advanced Research Methods: Psychophysiology Lab 2 *unit(s)*

### Complete One Course From:

- PSYC 190 - Current Issues Capstone 3 *unit(s)*
- PSYC 195 - Honors Seminar in Psychology 3 *unit(s)*

### Major Electives (5 units)

- One Upper Division Psychology Elective 2 *unit(s)*
- One Upper or Lower Division Psychology Elective 3 *unit(s)*

### University Electives (15-21 units)

### Total Units Required (120 units)

## Master

### Psychology, Clinical Psychology Concentration, MS

- Admission Requirements
- Degree Requirements
- Master's Requirements (60 units)
- Program Learning Outcomes

The Master of Science (MS) degree in Clinical Psychology, offered by the Department of Psychology, is designed to provide the student with both theoretical and practical training in the assessment, diagnosis, and treatment of a wide variety of individual (adult and children), couples', and family mental health problems, and to prepare the student to work in private or public service agencies, independent practice, community mental health centers, or hospitals. The required academic course work and supervised fieldwork of 60 semester units meet the course work requirements for the California State Marriage and Family Therapist (MFT) license and most of the requirements for the Licensed Professional Clinical Counselor (LPCC) license (see [www.bbs.ca.gov](http://www.bbs.ca.gov) for requirements). An additional 2500-3000 hours of acceptable supervised experience is required for admission to the state MFT or LPCC licensing examination.

# Admission Requirements

To be eligible for admission into the Clinical Psychology program, you must:

1. Meet all of the University graduate admission requirements.
2. Have a baccalaureate degree (BA or BS) in Psychology OR any baccalaureate degree (BA or BS) and a minimum of 30 semester units (45 quarter units) in Psychology.
3. Have taken the REQUIRED six courses in psychology from the list provided below. These are to be included in the minimum 30 semester units (10 semester courses).
4. Have a minimum GPA of 3.0 in all Psychology coursework AND a minimum of 3.0 the last 2 years of academic work attempted (60 semester or 90 quarter units).
5. Provide evidence of a minimum of 100 hours of paid or volunteer applied clinical experience working with persons in a counseling/helping capacity (e.g., volunteer in home for emotionally disturbed children, juvenile hall, suicide and crisis telephone hotline).
6. Provide three letters of recommendation. One reference MUST be from a clinical supervisor. Additional references may come from former instructors and from supervisors of previous work in volunteer placements in the clinical field.

## Undergraduate Courses in Psychology Required for Admission

1. General or Introduction to Psychology (SJSU code PSYC 1)
2. Elementary Statistics (SJSU code STAT 95)
3. Introduction to Research Methods (SJSU code PSYC 18 or PSYC 120)
4. Psychobiology or equivalent (SJSU code PSYC 30)

Each of the above four (1-4) may be taken at the community college or university level and may be lower-division courses.

1. Upper-division course in Abnormal Psychology (SJSU code PSYC 110)
2. Upper-division course in Theory and Methods of Counseling, or Clinical Psychology (SJSU code PSYC 160, or PSYC 165)

## Degree Requirements

General university requirements and procedures for completing the Master of Science degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

1. The student must complete a total of 60 units in clinical psychology as specified in the table below.
2. Candidates must demonstrate satisfactory performance on one or more final comprehensive examinations. These examinations are both written and oral.
3. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Graduation Writing Assessment Requirement



At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Master's Requirements (60 units)

### Core Courses (48 units)

- PSYC 203A - Clinical Assessment I 3 *unit(s)* (GWAR)
- PSYC 208 - Family Assessment and Intervention 3 *unit(s)*
- PSYC 209 - Psychology of Contemporary Families 3 *unit(s)*
- PSYC 210 - Advanced Psychopathology 3 *unit(s)*
- PSYC 211 - Child Psychopathology 3 *unit(s)*
- PSYC 212 - Life Span Development 3 *unit(s)*
- PSYC 222 - Gender and Ethnic Issues in Counseling and Therapy 3 *unit(s)*
- PSYC 224A - Clinical Psychology Practicum I 3 *unit(s)*
- PSYC 224B - Clinical Psychology Practicum II 3 *unit(s)*
- PSYC 225 - Advanced Group Dynamics 3 *unit(s)*
- PSYC 226 - Addictions and Treatment 3 *unit(s)*
- PSYC 228 - Professional Ethics for Psychologists 3 *unit(s)*
- PSYC 232 - Clinical Psychopharmacology 3 *unit(s)*
- PSYC 258 - Methods of Psychotherapy 3 *unit(s)*
- PSYC 260 - Crisis and Trauma Counseling 3 *unit(s)*
- PSYC 291 - Method and Design for Applied Research 3 *unit(s)*

### Culminating Experience (6 units)

*Students will take PSYC 298 twice.*

- PSYC 298 - Special Problems 1-6 *unit(s)*

### Field Work (6 units)

- PSYC 243 - Field Work in Psychology 1-6 *unit(s)*

### Total Units Required (60 units)

## Psychology, Industrial/Organizational Psychology Concentration, MS

- Admission Requirements
- Degree Requirements
- Master's Requirements (30 units)
- Program Learning Outcomes

The Master of Science (MS) degree in Industrial/Organizational (I/O) Psychology program, offered by the Department of Psychology, is designed to provide students with a fundamental grounding in theory, research, and application in

the field of I/O Psychology and to prepare them to work in a wide range of settings including medium-to-large sized organizations, government agencies, human resources or management consulting firms, and large research organizations. The program places particular emphasis on the science-practitioner approach in which students understand and appreciate theory and research as they apply their knowledge and skills to the needs and challenges of organizations.

## Admission Requirements

To be eligible for admission into the Industrial/Organizational Psychology program, you must:

1. Meet all of the University graduate admissions requirements
2. Have completed either a baccalaureate degree (BA/BS) in psychology or any baccalaureate degree and a minimum of 30 semester (45 quarter) units in psychology
3. Have a minimum GPA of 3.0 in the last 60 semester units (90 quarter units) of all college and/or university course work
4. Have a minimum GPA of 3.0 in all college and/or university psychology courses taken
5. Have taken the GRE Exam (General Test only), although we do not require a minimum score for your application to be considered.

## Degree Requirements

General university requirements and procedures for completing the Master of Science degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

1. The student must complete a total of not less than 30 semester units for the industrial/organizational concentration as specified in the degree below.
2. Candidates in the MS Industrial/Organizational program must complete a thesis as part of their 30 semester unit degree requirement. The nature of the thesis is to be determined in consultation with a committee of at least three faculty members. The thesis ordinarily consists of a quantitative investigation or program design, trial and evaluation of some degree of originality. The topic should be relevant to the field of study in which the candidate plans to work. The thesis will generally constitute the final comprehensive examination.
3. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

The Master of Science (MS) degree in Industrial/Organizational (I/O) Psychology program, offered by the Department of Psychology, is designed to provide students with a fundamental grounding in theory, research, and application in the field of I/O Psychology and to prepare them to work in a wide range of settings including medium-to-large sized organizations, government agencies, human resources or management consulting firms, and large research organizations. The program places particular emphasis on the science-practitioner approach in which students understand and appreciate theory and research as they apply their knowledge and skills to the needs and challenges of organizations.

# Admission Requirements

To be eligible for admission into the Industrial/Organizational Psychology program, you must:

1. Meet all of the University graduate admissions requirements
2. Have completed either a baccalaureate degree (BA/BS) in psychology or any baccalaureate degree and a minimum of 30 semester (45 quarter) units in psychology
3. Have a minimum GPA of 3.0 in the last 60 semester units (90 quarter units) of all college and/or university course work
4. Have a minimum GPA of 3.0 in all college and/or university psychology courses taken
5. Have taken the GRE Exam (General Test only), although we do not require a minimum score for your application to be considered.

# Degree Requirements

General university requirements and procedures for completing the Master of Science degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

1. The student must complete a total of not less than 30 semester units for the industrial/organizational concentration as specified in the degree below.
2. Candidates in the MS Industrial/Organizational program must complete a thesis as part of their 30 semester unit degree requirement. The nature of the thesis is to be determined in consultation with a committee of at least three faculty members. The thesis ordinarily consists of a quantitative investigation or program design, trial and evaluation of some degree of originality. The topic should be relevant to the field of study in which the candidate plans to work. The thesis will generally constitute the final comprehensive examination.
3. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

# Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Master's Requirements (30 units)

### Core Courses (15 units)

- PSYC 240 - Research Design and Applied Psychometrics *3 unit(s)*
- PSYC 249 - Field Work in Industrial/Organizational Psychology *1-6 unit(s) (3 units required)*
- PSYC 270 - Seminar in Industrial and Organizational Psychology *3 unit(s) (GWAR)*
- PSYC 271 - Seminar in Personnel Psychology *3 unit(s)*
- STAT 235 - Multivariate Analysis *3 unit(s)*

### Electives (9 units)

9 units of department advisor-approved electives

## Culminating Experience (6 units)

Complete one course from:

- PSYC 298 - Special Problems 1-6 unit(s)
- PSYC 299 - Master's Thesis or Project 1-6 unit(s)

## Total Units Required (30 units)

# Psychology, Research and Experimental Psychology Concentration, MA

- Admission Requirements
- Degree Requirements
- Master's Requirements (30 units)
- Program Learning Outcomes

The Master of Arts Program in Psychology, offered by the Department of Psychology, affords its candidates an opportunity for advanced study of psychological theory and research techniques with the following objectives in mind:

- **To ultimately earn a doctorate in psychology** - the course work and experience obtained in the Psychology Program is designed to enhance students' credentials when applying to highly competitive doctoral programs.
- **To succeed in business, industry and or a research setting** - our program's emphasis on the mastery of statistical and methodological procedures, research experience, and critical thinking produces graduates that are well suited for many careers in business, government, and/or an array of research settings.

## Admission Requirements

To be eligible for admission into our program, you must:

Meet all of the University's graduate admission requirements:

1. Have the equivalent of a U.S. baccalaureate degree
2. Have completed a minimum of 30 semester units in undergraduate psychology
3. Have a minimum GPA of 3.0 in the last 60 semester units (90 quarter units) of all college and/or university course work
4. Have a minimum GPA of 3.0 in all college and/or university psychology courses taken
5. Have taken the GRE Exam (General Test only), although we do not require a minimum score for your application to be considered

## Degree Requirements

General university requirements and procedures for completing the Master of Arts degree are described in the Academic Regulations section of this catalog. In addition to these, the following departmental requirements must be fulfilled.

## General Program Requirements

1. The student's combined total of approved undergraduate and graduate work in psychology must be at least 60 semester units, including 30 units for the MA Degree Program.
2. The student must complete at least 30 approved graduate units. At least 27 of these 30 units must be psychology or statistics units; of the 27, at least 24 must be 200-level courses, i.e., up to six units may be from 100-level courses with the program coordinator's approval.
3. The candidate must complete an acceptable thesis. This thesis will be a quantitative investigation of some degree of originality and of publication caliber.
4. Satisfactory performance on a final examination is required. This examination may be written, oral or both, as determined by the student's thesis advisory committee. This is typically satisfied through the oral defense of the student's thesis research.
5. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape) ([www.sjsu.edu/gradstudies](http://www.sjsu.edu/gradstudies)).

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Core (12 units)

- PSYC 280 - General Seminar 3 *unit(s)* (GWAR)
- PSYC 220 - Seminar in Experimental Psychology 3 *unit(s)*
- STAT 245 - Advanced Statistics 3 *unit(s)*

#### Complete One Course From:

- PSYC 240 - Research Design and Applied Psychometrics 3 *unit(s)*
- STAT 235 - Multivariate Analysis 3 *unit(s)*

#### Breadth (12 units)

- PSYC 204 - Seminar in Developmental Psychology 3 *unit(s)*
- PSYC 230 - Seminar in Physiological Psychology 3 *unit(s)*

#### Complete One Course From:

- PSYC 235 - Seminar in Cognitive Psychology 3 *unit(s)*
- PSYC 256 - Seminar in Perception 3 *unit(s)*

#### Complete One Course From:

- PSYC 200 - Seminar in Personality Theory 3 *unit(s)*
- PSYC 254 - Social Psychology Seminar 3 *unit(s)* (GWAR)

## Culminating Experience (6 units)

- PSYC 299 - Master's Thesis or Project 1-6 *unit(s)*
- Elective 3 *unit(s)*

## Total Units Required (30 units)

### Thesis Requirement

The thesis serves as the culmination of a student's course work, research experience, and growth as a scholar and scientist. This process is guided closely by a thesis advisor; a tenured or tenure-track faculty member of the Department of Psychology. As the student's ideas develop into a full thesis proposal, a thesis advisory committee is formed in order to provide further guidance and expertise. Collection of the thesis data begins once the proposal has been approved by the committee and the proper animal care/ human subjects' approval has been obtained. The introduction, analysis, and interpretations of these data will form the core of the student's written master's thesis. These efforts all culminate in an oral presentation and defense before the thesis committee. A detailed statement of thesis policies is available in the Psychology Department Office and on the departmental website [www.sjsu.edu/psych](http://www.sjsu.edu/psych).

## Minor

### Human Systems Integration Minor

The Human Systems Integration (HSI) minor: (1) studies the cognitive, perceptual, and performance capabilities and limitations of people as they interact with sociotechnical systems and devices (e.g., energy and transportation systems, computers, mobile devices, workplaces); and (2) seeks to apply evidence-based principles in the development of human-centered systems and devices. The HSI minor aims to provide students with interdisciplinary training to prepare to them to work in cross-functional teams to optimize human capabilities, increase system efficiency, reliability, and safety, and minimize error.

At least 12 units outside of preparation for the minor must be separate and distinct from the units used for the major program of the student. See a departmental advisor for approval of courses. Visit the Psychology Department Advising website for more information.

It is permissible for Psychology Majors to have a minor in Human Systems Integration.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Preparation (6 units)

- PSYC 1 - Introduction to Psychology 3 *unit(s)* (D1)

## Complete One Course From:

- PH 67 - Introductory Health Statistics 3 *unit(s)* (B4)
- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4)
- STAT 95 - Elementary Statistics 3 *unit(s)* (B4)
- UNVS 15S - Statway Part B: Statistics-Concepts & Methods 3 *unit(s)* (B4)
- BUS2 90 - Business Statistics 3 *unit(s)*

## Required Courses (9 units)

- PSYC 173 - Human Factors 3 *unit(s)*

## Complete Two Courses From:

- PSYC 135 - Cognition 3 *unit(s)*
- PSYC 155 - Human Learning 3 *unit(s)*
- PSYC 158 - Perception 3 *unit(s)*

## Minor Electives (6-8 units)

Complete at least two courses from:

- ART 108 - Introduction to Game Studies 3 *unit(s)*
- AVIA 2 - Private Pilot Ground 3 *unit(s)*
- AVIA 73 - Air Traffic Control 3 *unit(s)*
- AVIA 141 - Human Factors in the Aviation Environment 3 *unit(s)*
- BUS2 130 - Introduction to Marketing 3 *unit(s)*
- BUS4 92 - Introduction to Business Programming 3 *unit(s)*
- BUS4 111 - Networking and Data Communications 3 *unit(s)*
- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*
- DSID 121 - Industrial Design Process 3 *unit(s)*
- ENGR 120 - Programming Concepts for Behavioral and Social Science Applications 3 *unit(s)*
- ISE 164 - Computer and Human Interaction 3 *unit(s)*
- ISE 114 - Safety Engineering 3 *unit(s)*
- PSYC 170 - Industrial and Organizational Psychology 3 *unit(s)*
- STAT 115 - Intermediate Statistics 3 *unit(s)*

## Total Units Required (21-23 units)

## Psychology Minor

A minor in Psychology has a minimum of 18 units of PSYC and/or STAT. At least 12 of the 18 units must be upper division (i.e., courses numbered 100+ at SJSU). At least 12 units must be separate and distinct from the units used for the major program of the student. See a departmental advisor for approval of courses. Visit the Psychology Department Advising website for more information.

It is not permissible for a Psychology Major to also have a minor in Psychology.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements

### Lower Division Electives (0-6 units)

PSYC or STAT Prefix

### Upper Division Electives (12-18 units)

PSYC or STAT Prefix

### Total Units Required (18 units)

#### *PSYC 1 - Introduction to Psychology*

3 unit(s)

Psychology is the scientific study of behavior and mental processes. The content focuses on the exploration of major psychological theories and concepts, methods, and research findings in psychology. Topics include the biological bases of behavior, perception, cognition and consciousness, learning, memory, emotion, motivation, development, personality, social psychology, psychological disorders and therapeutic approaches to treatment, and applied psychology.

*Satisfies D1: Human Behavior*

**Grading:** Graded

#### *PSYC 2Q - Identity Development and Prejudice*

3 unit(s)

This seminar is designed to facilitate the transition to the university smoothly with a view to an increased understanding of one's cultural identity; and exploring mechanisms and consequences of prejudice and discrimination in American cultural groups.

*Satisfies E: Human Understanding & Development*

**Prerequisite(s):** First term freshmen only.

**Grading:** Graded

**Note(s):** All courses with a 'Q' suffix are designated as First Year Experience courses.

#### *PSYC 18 - Introduction to Research Methods*

3 unit(s)

Psychological research methods and design (experimental, quasi-experimental [correlational], and descriptive investigations) covering observation, instrumentation, and the collection, analysis, interpretation, and reporting of research data as illustrated through a review of original research in a variety of the subdisciplines of psychology.



**Prerequisite(s):** PSYC 1, and STAT 95.

**Grading:** Graded

*PSYC 30 - Introductory Psychobiology*

3 unit(s)

Biological approaches to understanding behavior: evolutionary, genetic, neural and hormonal influences on normal and abnormal behavior.

**Prerequisite(s):** BIOL 21 or BIOL 65.

**Grading:** Graded

*PSYC 82 - Foundations of Developmental Psychology*

3 unit(s)

Psychological development of children from conception to adolescence.

**Grading:** Graded

*PSYC 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*PSYC 96C - Introduction to Cognitive Science*

3 unit(s)

Focuses on the study of the mind and the nature of intelligence from interdisciplinary perspectives including computer science, philosophy, mathematics, psychology, neuroscience, and other disciplines. Specific topical coverage includes language acquisition, history of computer-based approaches to artificial intelligence and expertise, human learning, neuroscience, and mathematical, logical, and computational approaches to modeling cognitive process.

**Grading:** Graded

*PSYC 100W - Writing Workshop*

3 unit(s)

Practice in improvement of writing skills appropriate to the broad field of psychology, including essays, reports and scholarly communication. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** PSYC 1; STAT 95 or senior standing; A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Psychology Majors/Minors and Behavioral Science Majors only. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*PSYC 102 - Psychology of Childhood*

3 unit(s)

Psychological development of children from conception to middle childhood emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 105 - Special Topics in Developmental Psychology*

3 unit(s)

Intensive examination of current research and theory in a specialized area of developmental psychology. Course is repeatable for credit when course content changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** PSYC 102 or PSYC 112 or PSYC 114 or equivalent

**Grading:** Graded

*PSYC 107 - Psychology of Women*

3 unit(s)

Sex-role development of women in terms of bio-social factors involved in intellectual and personal-emotional functions. Psychological theory and research.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 110 - Adult Psychopathology*

3 unit(s)

Nature, causes, assessment, and treatment of behavioral, emotional, and personality problems of adults. Emphasis on psychological, social, and biological determinants of human behavioral and psychological disturbance.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 112 - Psychology of Adolescence*

3 unit(s)

Psychological development of adolescents' and young (emerging) adults emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 114 - Psychology of Aging*

3 unit(s)

Psychological development of middle-aged and older adults emphasizing normative (typical) development in the context of cognitive, socioemotional, biological, and cultural processes. Course content also includes age-related health problems and their prevention.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 117 - Psychological Tests and Measures*

3 unit(s)

Test and questionnaire construction, evaluation and interpretation applied to intelligence and ability tests, personality and adjustment questionnaires, ratings and behavioral observation techniques.

**Prerequisite(s):** STAT 95.

**Grading:** Graded

*PSYC 118 - Advanced Research Methods in Psychology*

3 unit(s)

Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics include: hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

**Prerequisite(s):** Lower division GE complete; STAT 95, PSYC 18, PSYC 100W with a "C" or better (or departmental approval), Upper division standing, Psychology or Behavioral Science majors only.

**Grading:** Graded

*PSYC 120 - Advanced Research Methods and Design*

4 unit(s)

Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics will include: hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

*Misc/Lab: Lecture 3 hours/activity 2 hours.*

**Prerequisite(s):** lower division GE complete; STAT 95; PSYC 100W with 'C' or better (or department approval); Upper Division; Psychology or Behavioral Science Major

**Grading:** Graded

*PSYC 121A - Advanced Research Methods Social/Personality Laboratory*

2 unit(s)

Advanced treatment of research approaches used in social and personality psychology. The course focus is shared between traditional laboratory and fieldwork experimental designs and methods. Data collection and statistical data analysis facilitate experiential learning.

*6 hours of Lab.*

**Prerequisite(s):** PSYC 100W, and PSYC 118 or PSYC 120, and PSYC 139 or PSYC 154. Upper division standing. Psychology majors only.

**Grading:** ABC-/NC Grading

*PSYC 121B - Advanced Research Methods: Cognition/Perception*

2 unit(s)

Advanced treatment of research approaches used in cognition and/or perception through traditional laboratory experimental designs and methods. Laboratory-based data collection and analysis facilitate experiential learning.

Lecture 1 hour/lab 3 hours.

**Prerequisite(s):** PSYC 100W; and either PSYC 135, PSYC 155, or PSYC 158; and either PSYC 118 or PSYC 120.

**Grading:** Graded

**Note(s):** Instructor consent may allow PSYC 121B and PSYC 120 concurrently on a space-available basis.

*PSYC 121C - Advanced Research Methods: Clinical Laboratory*

2 unit(s)

Advanced research methods used in clinical research. The primary focus is on traditional field and laboratory research methodologies. Data collection and statistical data analysis facilitate experiential learning.

**Prerequisite(s):** PSYC 100W and PSYC 118 or PSYC 120, and PSYC 110 or PSYC 142.

**Grading:** Graded

*PSYC 121E - Advanced Research Methods: Psychophysiology Lab*

2 unit(s)

Intensive experiential introduction to applied laboratory work in human psychophysiology and hormonal influences on human behavior. Focus on experimental methodology.

**Prerequisite(s):** PSYC 100W and PSYC 118 or PSYC 120 and PSYC 129

**Grading:** Graded

*PSYC 126 - Drugs, Brain and Behavior*

3 unit(s)

Survey of psychoactive drugs, including prescription and street drugs; social, behavioral and physiological effects of drugs; neural mechanisms of drug action; history of drug use.

**Prerequisite(s):** PSYC 30 or 3 units of biology.

**Grading:** Graded

*PSYC 129 - Neuroscience*

3 unit(s)

Principles of brain organization and function underlying behavior. Topics include neuroanatomy and physiology of language, vision, sexual behavior, memory and abnormal behavior.

**Prerequisite(s):** Either PSYC 30 and 3 units of biology, or 9 units of biology.

**Grading:** Graded

**Note(s):** Not acceptable as an elective in the Biology major.

*PSYC 135 - Cognition*

3 unit(s)

The activity of knowing: acquisition, organization and use of knowledge. Processes involved in that activity, including perception, memory, thinking and language.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 139 - Psychology of Personality*

3 unit(s)

Current approaches to the study of personality and personality processes.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 142 - Child Psychopathology*

3 unit(s)

Nature, causes, assessment, and treatment of behavioral, cognitive, and emotional problems of children and adolescents. Emphasis on psychological, social, and biological determinants of human behavioral and psychological disturbance.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 145 - Community Mental Health*

3 unit(s)

Comprehensive analysis of community mental health using a socio-ecological framework. Intersection of race, socioeconomic status, gender, sexual orientation, and mental health is examined. Emphasis is on prevention and recovery.

**Prerequisite(s):** Any 100W or instructor consent.

**Grading:** Graded

*PSYC 150 - Educational Psychology*

3 unit(s)

Development of individuals and how they learn. Intelligence, emotions, interests, social relations as related to development and learning.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

**Note(s):** No credit for those who have taken EDSC 173.

*PSYC 153 - Psychology in the Courtroom*

3 unit(s)

Role of psychology in the legal system: legal procedure and adversary system, jury selection, jury decision-making, eyewitness testimony, mental health law, criminal responsibility and legal insanity, expert psychological testimony, role of forensic psychologists.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 154 - Social Psychology*

3 unit(s)  
Theories, problems and issues in the study of human social behavior.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 155 - Human Learning*

3 unit(s)  
Memory, forgetting, concept formation, language learning, reinforcement and related topics. Traditional learning concepts, theories and findings with reference to contemporary classroom management, behavior modification and other applications.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 156 - Applied Behavior Analysis*

3-6 unit(s)  
Survey of applications of behavioral principles to problems of clinical and social importance. Topics include data-based decision making, approaches to promoting skill acquisition, and strategies for assessing and reducing problem behavior.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*PSYC 157 - Psychology of Motivation*

3 unit(s)  
Empirical findings and theoretical developments in motivation in relationship to concepts of need, arousal, drive and emotion.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 158 - Perception*

3 unit(s)  
Empirical and theoretical approaches to the psychology of perception with an emphasis on vision. Topics include the perception of form, color, depth and motion as well as the effects of attention and experience.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 160 - Clinical Psychology*

3 unit(s)

Survey of clinical psychology as a profession. Emphasis placed on training models, specializations within the field, the scientific study of psychological interventions, and the graduate school admissions process for masters and doctoral level psychotherapists.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 165 - Theory and Methods of Counseling*

3 unit(s)

A survey of theories focused on helping and behavior change. Course covers both historical and contemporary psychotherapeutic interventions found in clinical and counseling psychology and evidence based practice approaches in psychotherapy.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 167 - Sports Psychology*

3 unit(s)

Psychological aspects of sports, including the value of sports, psychological factors involved in competitive as well as non-competitive athletic activities and the role of sports psychologists.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 170 - Industrial and Organizational Psychology*

3 unit(s)

Application of psychological theory, research and methodology to the work environment. Topics covered include leadership, power, group processes, motivation, satisfaction and issues in personnel psychology.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 173 - Human Factors*

3 unit(s)

Human psychology and physiological characteristics and methods for taking these into account in designs and development of human-machine systems. Current human factor engineering efforts in lab, design process and operational environment.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*PSYC 175 - Management Psychology*

3 unit(s)

Theory and practice of psychology in organizations and management. Topics include learning, motivation, perception, attitudes, personality, stress, groups, culture, careers, communication, leadership, politics, conflict, cooperation, decision-making and organizational change.

**Prerequisite(s):** PSYC 1.  
**Grading:** Graded

*PSYC 177 - Political Psychology*

4 unit(s)

Introduction to the interdisciplinary field of political psychology, with a focus on topics including personality and leadership, political cognition, social identity, emotions and attitudes, voting and political behavior, racism and ethnocentrism, ethnic conflict and genocide, nationalism, terrorism, and conflict resolution.

**Prerequisite(s):** POLS 1 (or other US2-3), PSYC 1, or instructor consent  
**Grading:** Graded

*PSYC 180 - Individual Studies*

1-4 unit(s)

Research project in psychology.

**Prerequisite(s):** 12 units of psychology and instructor and department chair consent.  
**Grading:** Credit/No Credit

*PSYC 184 - Directed Reading*

1-4 unit(s)

Directed reading on a specific psychological topic.

**Prerequisite(s):** 12 units of psychology and instructor and department chair consent.  
**Grading:** Credit/No Credit

*PSYC 186 - Psychology Field Work*

1-4 unit(s)

Supervised field work in a selected area of psychology. Course is repeatable for 4 unit maximum.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Instructor and department chair consent.  
**Grading:** Credit/No Credit

*PSYC 190 - Current Issues Capstone*

3 unit(s)

Integrative survey of current issues in psychology, how they developed and likely future directions. Completion of the research methods requirement prior to enrollment in this course is recommended.

**Prerequisite(s):** PSYC 100W and senior standing.  
**Pre/Corequisite(s):** PSYC 118 or PSYC 120  
**Grading:** Graded

*PSYC 191 - The Psychology of Prejudice*



3 unit(s)

Provides an examination of psychological theory and research related to prejudice and discrimination from the perspectives of both the holders and targets of prejudice. Includes individual and small group exercises to provide experiential learning. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PSYC 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*PSYC 193 - Behavioral Science in Practice*

3 unit(s)

Capstone workshop for behavioral science majors. Students assess methods and knowledge of anthropology, psychology and sociology, and synthesize them by reflecting upon case studies of individual, organizational, community, and global issues. Emphasis is on cooperative learning, reflection and synthesis of skills and knowledge.

**Prerequisite(s):** Senior standing, declared major in Behavioral Science or Behavioral Science double major.

**Grading:** Graded

*PSYC 195 - Honors Seminar in Psychology*

3 unit(s)

Intensive examination of background and current status of student-selected problems.

**Prerequisite(s):** at least 18 units of PSYC/STAT, PSYC 100W, PSYC 118 or PSYC 120, overall PSYC/STAT GPA of 3.5, Senior Standing

**Grading:** Graded

*PSYC 199 - Senior Honors Thesis*

3 unit(s)

Supervised thesis open only to exceptional senior psychology majors.

**Prerequisite(s):** Senior or graduate standing and instructor consent.

**Grading:** Mandatory CR/NC/RP

*PSYC 200 - Seminar in Personality Theory*

3 unit(s)

A survey of contemporary approaches to personality study.

**Prerequisite(s):** PSYC 139 (or equivalent) plus a total of nine semester hours of upper division psychology courses.  
**Grading:** Graded

*PSYC 203A - Clinical Assessment I*

3 unit(s)

An in-depth introduction to objective, projective and behavioral assessment techniques used in the clinical evaluation of the behavior and functioning of adults, children and families.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** PSYC 117 (or equivalent).

**Grading:** Graded

**Note(s):** MS program priority. This course satisfies graduate-level GWAR in this master's program.

*PSYC 204 - Seminar in Developmental Psychology*

3 unit(s)

An examination of significant theories, perspectives, and research in developmental psychology.

**Prerequisite(s):** PSYC 102 (or equivalent).

**Grading:** Graded

*PSYC 208 - Family Assessment and Intervention*

3 unit(s)

An interdisciplinary exploration of how therapists can analyze and change interpersonal dynamics in couples and families.

**Grading:** Graded

*PSYC 209 - Psychology of Contemporary Families*

3 unit(s)

An overview of current family issues faced by psychotherapists in clinical settings. Emphasis will be placed on identification and conceptualization of these issues from a psychological perspective, stressing integration of issues into clinical practice. MS Clinical program priority.

**Prerequisite(s):** PSYC 208.

**Grading:** Graded

*PSYC 210 - Advanced Psychopathology*

3 unit(s)

Advanced course to provide knowledge and experience in the classification and treatment of disorders of childhood, adolescence and adulthood as they are identified in schools, family interactions and worksite settings. Critical review of research related to the evaluation of treatment strategies.

**Prerequisite(s):** PSYC 110.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 211 - Child Psychopathology*

3 unit(s)

An overview on the nature, assessment and treatment of Child Psychopathology. Emphasis will be placed on understanding DSM-IV diagnoses from a developmental prospective. Objective methods of assessment and empirically supported treatments will be covered.

**Grading:** Graded

*PSYC 212 - Life Span Development*

3 unit(s)

Psychological, biological and social development throughout the life cycle. Interdisciplinary lecture course includes infancy, childhood, adolescence, young adulthood, middle age and old age. Topics include theories, research, influences, changes, problems and patterns of human development.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 219 - HCI for Cyber Security*

3 unit(s)

The course covers HCI in cyber security that include: authentication and access control, trust, user privacy and data protections, cyber security in social networking, data protection and security in healthcare , cyber security in eCommerce, mobile, computing & cloud computing, compliance and regulation, visualization tools and techniques in cyber security and privacy.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*PSYC 220 - Seminar in Experimental Psychology*

3 unit(s)

Applications of experimental method to current problems in psychology. Individual design and experimental work required.

**Prerequisite(s):** PSYC 120A.

**Grading:** Graded

*PSYC 222 - Gender and Ethnic Issues in Counseling and Therapy*

3 unit(s)

Theoretical and practical understanding of gender and ethnic issues in clinical practice, including issues arising from differing socialization, psychological structures, values and cultural assumptions that may affect therapeutic intervention within individuals, couples and families.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 223B - Clinical Psychology Theory I*

3 unit(s)

Application of clinical theory to the treatment of behavioral problems of individuals and families.

**Prerequisite(s):** PSYC 223A.

**Corequisite(s):** PSYC 224B.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 224A - Clinical Psychology Practicum I*

3 unit(s)

Supervised experience in the treatment of behavioral and emotional problems of individuals and families.

**Prerequisite(s):** Same as PSYC 223A.

**Corequisite(s):** PSYC 223A.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 224B - Clinical Psychology Practicum II*

3 unit(s)

Advanced supervision in the treatment of behavioral and emotional problems of individuals and families.

**Prerequisite(s):** Same as PSYC 224A.

**Corequisite(s):** PSYC 223B.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 225 - Advanced Group Dynamics*

3 unit(s)

Advanced study of the dynamics of small group interaction. Limited supervised training in group facilitation techniques.

**Prerequisite(s):** PSYC 125 (or equivalent).

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 226 - Addictions and Treatment*

3 unit(s)

Advanced course in assessment, diagnosis, and treatment, and prevention of substance abuse and dependence and co-occurring disorders in multiple settings. Critical review of research related to the evaluation of treatment strategies

are provided from recovery models, family, and individual perspectives.

**Prerequisite(s):** PSYC 203A and graduate standing in MS psychology program

**Grading:** Graded

*PSYC 228 - Professional Ethics for Psychologists*

3 unit(s)

Consideration of ethical and legal issues related to the professional application of psychology. Designed particularly for students involved in field work.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 230 - Seminar in Physiological Psychology*

3 unit(s)

An advanced consideration of the neurophysiological correlates of behavior.

**Prerequisite(s):** PSYC 129 (or equivalent).

**Grading:** Graded

*PSYC 232 - Clinical Psychopharmacology*

3 unit(s)

Prepares counseling professionals to understand aspects of drug use, mechanisms of change and clinical outcomes.

**Prerequisite(s):** PSYC 126 or equivalent.

**Grading:** Graded

*PSYC 235 - Seminar in Cognitive Psychology*

3 unit(s)

Theories and current research in cognitive psychology with emphasis on components of cognitive processing from pattern recognition to problem solving. Substantial emphasis on cognitive development and mechanisms of cognitive change.

**Prerequisite(s):** Graduate standing.

**Grading:** Graded

*PSYC 240 - Research Design and Applied Psychometrics*

3 unit(s)

Advanced introduction to issues in psychological research (experimental, quasi-experimental and survey research), measurement and test construction (item analysis, test reliability and validity and development of norms).

**Prerequisite(s):** PSYC 117, STAT 115 or instructor consent.

**Grading:** Graded

*PSYC 243 - Field Work in Psychology*

1-6 unit(s)

Supervised field work experience in outside agency settings. Open through consultation only to students in MS programs.

*Course may be repeated for credit for up to 36 units.*

**Grading:** Credit/No Credit

*PSYC 249 - Field Work in Industrial/Organizational Psychology*

1-6 unit(s)

Supervised experience applying psychological and organizational theory and practice in business, industrial and other organizational settings.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*PSYC 254 - Social Psychology Seminar*

3 unit(s)

Theoretical and practical approaches to the understanding of human behavior within a social context.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** PSYC 154 (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PSYC 255 - Seminar in Learning*

3 unit(s)

Current problems in learning with primary emphasis on learning theory.

**Prerequisite(s):** PSYC 155 (or equivalent).

**Grading:** Graded

*PSYC 256 - Seminar in Perception*

3 unit(s)

Selected issues in visual sensation and perception. Topics include the perception of color, form, depth and motion. Emphasis on the relationship of perception to sensory physiology.

**Prerequisite(s):** PSYC 158 (or equivalent).

**Grading:** Graded

*PSYC 258 - Methods of Psychotherapy*

3 unit(s)

Survey of the theoretical background and practical application of various approaches to psychotherapy.

**Prerequisite(s):** PSYC 139.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 260 - Crisis and Trauma Counseling*

*3 unit(s)*

Advanced course on trauma including strategies for assessing, managing, short and long term- treatment for acute and chronic stress reactions. Empirically supported risk and protective factors, and evidence-based treatments are covered. Resilience, personal, multidisciplinary, and community perspectives are emphasized.

**Prerequisite(s):** PSYC 203A and Graduate Standing in MS Psychology program

**Grading:** Graded

*PSYC 270 - Seminar in Industrial and Organizational Psychology*

*3 unit(s)*

Psychological theory, research and practice in organizations. Topics emphasized include motivation, job satisfaction, communication, leadership, group processes, decision-making, conflict, cooperation, power and organization development and change.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** MS I/O program priority. This course satisfies graduate-level GWAR in this master's program.

*PSYC 271 - Seminar in Personnel Psychology*

*3 unit(s)*

In-depth introduction to relevant methodology, research, applications and issues. Topics include legal issues in personnel, test validation, selection, job analysis, performance appraisal and training and development.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** MS I/O program priority.

*PSYC 272 - Training and Development in Organizations*

*3 unit(s)*

Course will address 'classic', current, and future issues in training and development. Topics covered include theories of learning, needs assessment, training methodology, program evaluation, management development, and trends that may influence future training and development programs.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*PSYC 273 - Seminar in Human Factors*

3 unit(s)

Data and theory of sensory and cognitive psychology and their application to the design of systems used by humans.

**Prerequisite(s):** PSYC 135 and PSYC 158 (or equivalent).

**Grading:** Graded

*PSYC 275 - Professional Issues in I/O Psychology*

3 unit(s)

Address topics and issues faced by I/O psychologists working within organizational settings. Review and analysis of research regarding the application of psychological theory, concepts, and research methodologies. Evaluation and discussion of early career-related ethical issues and professional challenges and strategies.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** PSYC 270 and graduate standing in MS I/O Psychology program

**Grading:** Graded

*PSYC 276 - Groups at Work*

3 unit(s)

Group process and performance, types of work groups and tasks, group development (norms, roles and strategies), group leadership approaches and skills, decision-making, team building, high performing and self managing teams.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*PSYC 280 - General Seminar*

3 unit(s)

Current psychological literature in selected fields and the development of a specific topic by the student.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Undergraduate major in psychology (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PSYC 291 - Method and Design for Applied Research*

3 unit(s)

Development and management of applied research programs based on contributions of psychological research and methodology. Criticizing existing and proposed research. Reporting and communicating research results.

**Prerequisite(s):** PSYC 18 or PSYC 120A; STAT 95 and STAT 115.

**Grading:** Graded

**Note(s):** MS program priority.

*PSYC 293 - Organizational Development*



3 unit(s)

Theory and practice of organization development, including systems thinking; action research; organization assessment and diagnosis; survey development and feedback; individual, group, inter-group and organization-wide interventions; consultant roles; and ethics of practice in organizations.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*PSYC 295 - Substance Abuse, Human Sexuality, and Life-Span Issues for Therapists*

3 unit(s)

An examination of current issues in marriage and family therapy related to substance use, sexual issues, and development across the lifespan. Course will cover theories and contemporary issues in these areas with an emphasis on application in treatment.

**Grading:** Graded

*PSYC 298 - Special Problems*

1-6 unit(s)

Advanced work in areas not covered in any regular course offering. Course is repeatable for a maximum of four units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*PSYC 299 - Master's Thesis or Project*

1-6 unit(s)

Five units required for the M.A.; six units for the M.S.

**Prerequisite(s):** Admission to candidacy for the MA or MS degree and thesis chair permission.

**Grading:** Mandatory CR/NC/RP

*PSYC 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project unless concurrently enrolled in another SJSU course

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*STAT 95 - Elementary Statistics*

3 unit(s)

Hypothesis testing and predictive techniques to facilitate decision-making; organization and classification of data, descriptive and inferential statistics, central tendency, variability, probability and sampling distributions, graphic

representation, correlation and regression, chi-square, t-tests, and analysis of variance. Computer use in analysis and interpretation.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I or M-II, or completion of a GE Area B4 course with a grade of C- or better.

**Grading:** Graded

**Note(s):** Intended for Psychology majors and minors as well as for programs in Behavioral Science, Child Development, Education, Health Science, Nursing, Nutritional Science, Social Science, and Social Work.

*STAT 115 - Intermediate Statistics*

*3 unit(s)*

Statistical analysis at the intermediate level; chi-square, analysis of variance, correlation and regression, and topics in experimental design; use of microcomputers for statistical calculations.

**Prerequisite(s):** STAT 95 (or equivalent).

**Grading:** Graded

**Note(s):** Intended for majors in education, nursing, personnel administration, psychology, social service and sociology, and psychology minors.

*STAT 235 - Multivariate Analysis*

*3 unit(s)*

Multivariate techniques for analyzing social science data with emphasis on multiple regression, multivariate analysis of variance, factor analysis, discriminant analysis and canonical correlation.

**Prerequisite(s):** STAT 115 or instructor consent.

**Grading:** Graded

*STAT 245 - Advanced Statistics*

*3 unit(s)*

Advanced problems in statistical analysis. Advanced consideration of hypothesis testing, estimation and analysis of variance.

**Prerequisite(s):** STAT 115 or instructor consent.

**Grading:** Graded

## Department of Sociology and Interdisciplinary Social Sciences

**Office:** Dudley Moorhead Hall 241

**Telephone:** 408-924-5320

**Email:** sociology@sjsu.edu; asianamericanstudies@sjsu.edu; womengenderandsexualitystudies@sjsu.edu

**Website:** [www.sjsu.edu/siss](http://www.sjsu.edu/siss)

### **Professors**

Maria Luisa Alaniz  
Tanya Bakhru, Coordinator, Women, Gender, and Sexuality Studies Program  
Natalie Boero  
Peter Chua  
Hien Duc Do, Coordinator, Asian American Studies Program  
Carlos Eduardo Garcia, Chair  
Shahin Gerami  
Amy Leisenring  
Susan Bell Murray, Director of Graduate Studies  
Scott Myers-Lipton

### **Associate Professors**

William Armaline  
Megan Thiele

### **Assistant Professors**

Jack Caraves  
Faustina DuCros  
Yvonne Y. Kwan  
Joanne Rondilla  
Preston O. Rudy  
Elizabeth Sweet

## **Overview**

The Department of Sociology and Interdisciplinary Social Sciences educates students about the social processes that create, maintain, and transform our society. The major uses sociological foundations and applications as well as interdisciplinary approaches to the study of society and in teacher education training. Sociologists analyze how social institutions and social structures such as the economy, politics, education, the family, mass media, and the criminal justice system affect individuals in society. The major provides students with the skills and knowledge to navigate the social, political, economic, historical, and cultural issues that build and sustain effective leadership in our complex global society. The teacher preparation program is designed to ensure that teachers will excel in classrooms that are increasingly heterogeneous in terms of race and ethnicity.

We have two major degree program tracks: Sociology, Sociology with Concentrations (Community Change; Race and Ethnic Studies; Social Interaction; Women, Gender and Sexuality Studies); Social Science Teacher Preparation (Multiple and Single Subject). The department offers several minor courses of study: Asian American Studies, Sociology, Sociology of Education, and Women, Gender and Sexuality Studies. These degree programs lead to careers in education, government and public policy, criminal justice, nonprofit organizations, marketing research, human resource management, social work, and other areas.

## **Undergraduate**

### **Sociology, BA**

The BA in Sociology, offered by the Department of Sociology and Interdisciplinary Social Sciences, educates students about social processes that create, maintain, and transform social institutions and social identities. Sociology provides a framework for understanding social behavior in groups, social change and inequality in society, and solutions to social problems. Analytical and research skills speak to the needs of a changing world. The degree offers students the widest flexibility in terms of future career choices.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Requirements	39
University Electives	37
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement (3 units)**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- SOCI 100W - Writing Workshop 3 *unit(s)* (Z)

**Major Requirements (39 units)**

**Core Courses (24 units)**

- SOCI 1 - Introduction to Sociology 3 *unit(s)* (D1)
- SOCI 80 - Social Problems 3 *unit(s)* (D3)
- SOCI 101 - Social Theory 3 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*
- SOCI 105 - Qualitative Research Methods 3 *unit(s)*

- SOCI 116 - Global Society 3 *unit(s)*

Complete One Course From:

- SOCI 102 - Introduction to Statistics 3 *unit(s)*
- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

Complete One Course From:

- SOCI 104B - Advanced Quantitative Research Methods 3 *unit(s)*
- SOCI 105B - Advanced Qualitative Research Methods 3 *unit(s)*
- SOCI 181B - Sociology Career Capstone 3 *unit(s)*

Additional Requirements (15 units)

Complete One Course From:

- SOCI 118 - Sociology of Human Rights and Social Justice 3 *unit(s)*
- SOCI 140 - Sociology of Media 3 *unit(s)*
- SOCI 146 - Work, Power, and Leisure 3 *unit(s)*
- SOCI 160 - Immigration and Identity 3 *unit(s)*
- SOCI 161 - City Life 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)
- SOCI 163 - Social Change 3 *unit(s)*
- SOCI 164 - Social Action 3 *unit(s)*
- SOCI 165 - Poverty, Wealth and Privilege 3 *unit(s)*
- SOCI 166 - Medical Sociology 3 *unit(s)*
- SOCI 169 - Political Sociology 3 *unit(s)*
- SOCI 177 - Sociology of Education 3 *unit(s)*

Complete One Course From:

- SOCI 151 - Violence in the Family 3 *unit(s)*
- SOCI 154 - Sociology and Non-Conforming Behavior 3 *unit(s)*
- SOCI 170 - Sociology of Family 3 *unit(s)*
- SOCI 171 - Person and Society 3 *unit(s)*
- SOCI 172 - Lesbian, Gay, Bi, Transgender Studies 3 *unit(s)*
- SOCI 173 - Socialization and Identity 3 *unit(s)*
- SOCI 174 - Sexualities 3 *unit(s)*
- SOCI 175 - Sociology of Masculinities and Femininities 3 *unit(s)*
- SOCI 176 - Sociology of Everyday Life 3 *unit(s)*
- SOCI 178 - Sociology of Childhood 3 *unit(s)*
- Select any additional three upper division Sociology courses including those listed above\* 9 *unit(s)*

## University Electives (37 units)

A minor is strongly recommended.

## Total Units Required (120 units)

\*SOC1 120, SOC1 180, SOC1 196 (Experimental Courses) and SOC1 199H may be applied to the major when they have direct relevance; such relevance is determined by advisor.

Double major or double concentration requirements: contact the Department of Sociology and Interdisciplinary Social Sciences for an appointment with the department chair.

## Sociology, Community Change Concentration, BA

- Department of Sociology and Interdisciplinary Social Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Core Requirements	24
Concentration Requirements	15
University Electives	40
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

## Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).



*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- SOCI 100W - Writing Workshop 3 unit(s) (Z)

## Major Requirements (39 units)

### Core Courses (24 units)

- SOCI 1 - Introduction to Sociology 3 unit(s) (D1)
- SOCI 80 - Social Problems 3 unit(s) (D3)
- SOCI 101 - Social Theory 3 unit(s)
- SOCI 104 - Quantitative Research Methods 3 unit(s)
- SOCI 105 - Qualitative Research Methods 3 unit(s)
- SOCI 116 - Global Society 3 unit(s)

### Complete One Course From:

- SOCI 15 - Statistical Applications in the Social Sciences 3 unit(s) (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)
- SOCI 102 - Introduction to Statistics 3 unit(s)

### Complete One Course From:

- SOCI 104B - Advanced Quantitative Research Methods 3 unit(s)
- SOCI 105B - Advanced Qualitative Research Methods 3 unit(s)
- SOCI 181B - Sociology Career Capstone 3 unit(s)

## Community Change Concentration (15 units)

- SOCI 163 - Social Change 3 unit(s)
- SOCI 164 - Social Action 3 unit(s)

### Complete Three Courses From:

- SOCI 160 - Immigration and Identity 3 unit(s)
- SOCI 165 - Poverty, Wealth and Privilege 3 unit(s)
- SOCI 118 - Sociology of Human Rights and Social Justice 3 unit(s)
- SOCI 120 - Contemporary Social Issues 3 unit(s)
- SOCI 146 - Work, Power, and Leisure 3 unit(s)
- SOCI 161 - City Life 3 unit(s)
- SOCI 162 - Race and Ethnic Relations 3 unit(s) (S)
- SOCI 166 - Medical Sociology 3 unit(s)
- SOCI 169 - Political Sociology 3 unit(s)
- SOCI 171 - Person and Society 3 unit(s)
- SOCI 199H - Senior Honors Thesis 1-4 unit(s)

## University Electives (40 units)

A minor is strongly recommended.

## Total Units Required (120 units)

SOCI 180, SOCI 196, and SOCI 199H may be applied to the major when they have direct relevance to the concentration; such relevance is determined by approval of an advisor.

# Sociology, Race and Ethnic Studies Concentration, BA

- Department of Sociology and Interdisciplinary Social Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Core Requirements	27
Concentration Requirements	15-16
University Electives	36-37
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (42-43 units)

### Core Courses (27 units)

- SOCI 1 - Introduction to Sociology 3 *unit(s)* (D1)
- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)
- SOCI 80 - Social Problems 3 *unit(s)* (D3)
- SOCI 100W - Writing Workshop 3 *unit(s)* (Z)
- SOCI 101 - Social Theory 3 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*
- SOCI 105 - Qualitative Research Methods 3 *unit(s)*
- SOCI 116 - Global Society 3 *unit(s)*

### Complete One Course From:

- SOCI 104B - Advanced Quantitative Research Methods 3 *unit(s)*
- SOCI 105B - Advanced Qualitative Research Methods 3 *unit(s)*
- SOCI 181B - Sociology Career Capstone 3 *unit(s)*

## Additional Requirements (15-16 units)

### Concentration Core (3 units)

Complete one course from:

- AAS 185 - Multicultural Perspectives within American Society 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)

## Race and Ethnic Studies Breadth (12-13 units)

### Complete One Course from Each of the Following Areas

#### Area 1- Asian American Studies (3-4 units)

- AAS 125 - Filipino Experience in the United States 3 *unit(s)*
- AAS 133 - Introduction to Social Issues in Planning 4 *unit(s)*
- AAS 170 - Special Topics in Asian American Studies 3 *unit(s)*
- AAS 175 - Asian American Communities 3 *unit(s)* (S)
- AAS 186 - The Vietnamese Experience in America 3 *unit(s)*

#### Area 2- African American Studies (3 units)

- AFAM 112 - African Immigrant Communities in the U.S. 3 *unit(s)*
- AFAM 120 - Sociology of African American Communities 3 *unit(s)*
- AFAM 125 - The Black Family: Historical/Contemporary Realities 3 *unit(s)*

- AFAM 134 - The Black Civil Rights Movements 3 *unit(s)*

### Area 3- Chicana and Chicano Studies (3 units)

- CCS 115 - Chicana/o Families 3 *unit(s)*
- CCS 120 - Political Economy and Chicana/o Communities 3 *unit(s)*
- CCS 125 - Chicana/o Community Studies 3 *unit(s)*
- CCS 127 - Chicanas/os and the Criminal Justice System 3 *unit(s)*
- CCS 130 - Chicanas and Chicanos in American Society 3 *unit(s)* (S)
- CCS 135 - Contemporary Chicana/o Issues 3 *unit(s)*

### Area 4- Native American Studies (3 units)

- ANTH 164 - North America before 1492 3 *unit(s)*
- ANTH 175 - Anthropology of Native America 3 *unit(s)*
- ANTH 176 - Native California: Past and Present 3 *unit(s)*
- SOCI 142 - Critical Native American Studies 3 *unit(s)*

## University Electives (36-37 units)

A minor is strongly recommended.

## Total Units Required (120 units)

# Sociology, Social Interaction Concentration, BA

- Department of Sociology and Interdisciplinary Social Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	41
Major Core Requirements	27
Concentration Requirements	15
University Electives	37
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (41 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (42 units)

### Core Courses (27 units)

- SOCI 1 - Introduction to Sociology 3 *unit(s)* (D1)
- SOCI 80 - Social Problems 3 *unit(s)* (D3)
- SOCI 100W - Writing Workshop 3 *unit(s)* (Z)
- SOCI 101 - Social Theory 3 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*
- SOCI 105 - Qualitative Research Methods 3 *unit(s)*
- SOCI 116 - Global Society 3 *unit(s)*

### Complete One Course From:

- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)
- SOCI 102 - Introduction to Statistics 3 *unit(s)*

### Complete One Course From:

- SOCI 104B - Advanced Quantitative Research Methods 3 *unit(s)*
- SOCI 105B - Advanced Qualitative Research Methods 3 *unit(s)*
- SOCI 181B - Sociology Career Capstone 3 *unit(s)*

## Social Interaction Concentration (15 units)

- SOCI 173 - Socialization and Identity 3 *unit(s)*

### Complete Three Courses From:

- SOCI 140 - Sociology of Media 3 *unit(s)*
- SOCI 151 - Violence in the Family 3 *unit(s)*

- SOCI 154 - Sociology and Non-Conforming Behavior 3 *unit(s)*
- SOCI 171 - Person and Society 3 *unit(s)*
- SOCI 174 - Sexualities 3 *unit(s)*
- SOCI 176 - Sociology of Everyday Life 3 *unit(s)*
- SOCI 178 - Sociology of Childhood 3 *unit(s)*

### Complete One Course From:

- SOCI 160 - Immigration and Identity 3 *unit(s)*
- SOCI 161 - City Life 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)* (S)
- SOCI 166 - Medical Sociology 3 *unit(s)*
- SOCI 177 - Sociology of Education 3 *unit(s)*

### University Electives (37 units)

A minor is strongly recommended.

### Total Units Required (120 units)

SOCI 120, SOCI 180, SOCI 196, and SOCI 199H may be applied to the major when they have direct relevance to the concentration; such relevance is determined by approval of an advisor.

## Sociology, Women, Gender, and Sexuality Studies Concentration, BA

The Women, Gender, and Sexuality Studies Program, offered by the Department of Sociology and Interdisciplinary Social Sciences at San Jose State, is committed to interdisciplinary scholarship and teaching based on global feminist frameworks. WGSS curriculum investigates how lives are shaped by gender and gender identity, race, class, sexuality, and nation. The program emphasizes the importance of understanding gender as integral to social and political structures of power. Students will obtain skills to cultivate critical thinking, cultivation of dialogue, coalition building, appreciation of diversity, and contribution to social change based on feminist frameworks. The goal of the WGSS program includes integrating the academic and experiential, thereby contributing to social change and justice.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	38
Major Core Requirements	27
Concentration Requirements	15
University Electives	40
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation



Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (27 units)

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (42 units)

### Core Courses (27 units)

- SOCI 1 - Introduction to Sociology 3 *unit(s)* (D1)
- SOCI 80 - Social Problems 3 *unit(s)* (D3)
- SOCI 100W - Writing Workshop 3 *unit(s)* (Z)
- SOCI 101 - Social Theory 3 *unit(s)*
- SOCI 104 - Quantitative Research Methods 3 *unit(s)*
- SOCI 105 - Qualitative Research Methods 3 *unit(s)*
- SOCI 116 - Global Society 3 *unit(s)*

### Complete One Course From:

- SOCI 15 - Statistical Applications in the Social Sciences 3 *unit(s)* (B4) (*UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.*)
- SOCI 102 - Introduction to Statistics 3 *unit(s)*

### Complete One Course From:

- SOCI 104B - Advanced Quantitative Research Methods 3 *unit(s)*
- SOCI 105B - Advanced Qualitative Research Methods 3 *unit(s)*
- SOCI 181B - Sociology Career Capstone 3 *unit(s)*

## Concentration Courses (15 units)

- SOCI 172 - Lesbian, Gay, Bi, Transgender Studies 3 *unit(s)*

- SOCI 175 - Sociology of Masculinities and Femininities 3 *unit(s)*
- WOMS 169 - Sexualities and the Body 3 *unit(s)*

### Complete Two Courses From:

- SOCI 170 - Sociology of Family 3 *unit(s)*
- WOMS 101 - Sex, Power, and Politics 3 *unit(s)* (S)
- WOMS 102 - The Global Study of Women 3 *unit(s)* (V)
- WOMS 112 - Women in the Global Economy 3 *unit(s)*
- WOMS 114 - Politics of Mothering and Reproduction 3 *unit(s)*
- WOMS 160 - Queering Gender, Race, and Class 3 *unit(s)*
- WOMS 189 - Islamic Perspectives on Gender 3 *unit(s)*

### University Electives (40 units)

A minor is strongly recommended.

### Total Units Required (120 units)

## Master

### Sociology, MA (Not Accepting Students)

- Admissions Requirements
- Requirements for Advancement to Graduate Candidacy
- Requirements for Graduation
- Master's Requirements (30 units)
- Program Learning Outcomes

## Admissions Requirements

The Department of Sociology and Interdisciplinary Social Sciences at San José State University offers a General MA Degree in Sociology. The program is designed to prepare students for entry into PhD programs and to provide skills and training necessary for employment as professional sociologists and other related occupations. We are looking for students who are curious about the social world, academically dedicated, and committed to the examination of society. Information about the program can be found on the department website: [sjsu.edu/siss/academics/grad](http://sjsu.edu/siss/academics/grad).

Applicants must meet all of the university admission requirements as established by the university catalog. The Department of Sociology and Interdisciplinary Social Sciences sets criteria for admission into the Sociology Master of Arts Program that are higher than the base standards established by the university. The requirements of the Department of Sociology and Interdisciplinary Social Sciences are as follows:

- An earned baccalaureate at an accredited college or university with a grade point average of 3.0 (on a 4-point scale).

- Completion of the following prerequisite coursework with a grade of "B" or better: sociological theory (SOC 101 or equivalent), research methods (SOC 104 or equivalent), and social science statistics (SOC 15 or SOC 102 or equivalent).
- An approximately 1,000-word statement of purpose discussing the applicant's purpose for pursuing an MA degree in Sociology, the applicant's areas of interest and previous academic/professional experience, and the applicant's career goals.
- Two letters of recommendation from faculty members who can assess the applicant's potential for graduate level work in Sociology. In certain cases, one letter may be from an employer who can attest to the applicant's ability and potential for graduate work.
- A writing sample that consists of a 6- to 10-page paper (or portion of a paper) that highlights the applicant's writing ability and analytical skills.

Depending on whether or not they have completed the prerequisite requirements, applicants can be admitted in either classified or conditionally classified standing. Students admitted in conditionally classified standing will need to complete any missing prerequisite courses and pass them with a grade of "B" or better within 2 semesters of being admitted. Students who do not do meet this requirement will be disqualified from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

After completing a minimum of 9 units of letter-graded instruction at the graduate level (with at least a "B" average), students may apply to candidacy. Additionally, admission to candidacy requires:

- An approved program of study consisting of 30 units, developed in consultation with the graduate advisor and in conformity with university and departmental requirements; and
- Completion of the Graduation Writing Assessment Requirement (GWAR). The university requires that all graduate students complete the GWAR as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

Further requirements of the department for advancement to candidacy include submission of a declaration of a plan of study to the department's Graduate Committee, detailing the student's intent to complete either a special study project (SOC 298) or a thesis (SOC 299). If the plan is deemed satisfactory, the student will be advanced to candidacy.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Department Graduation Requirements

Requirements for the MA in Sociology include 30 units of graduate level course work. All students are required to complete SOCI 200, SOCI 201, SOCI 204, and SOCI 205 with a grade of "B" or better. With approval of the department's graduate coordinator, up to 9 units of upper-division undergraduate course work in Sociology, graduate-level non-sociology course work, or a combination of the two, may count toward the total 30-unit requirement.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing SOCI 201.*

## Culminating Experience

### Plan A (Thesis)

Students selecting the thesis option must demonstrate research and writing competency and show the ability to conduct independent research. Upon successful completion of the four required core courses and after receiving approval from the Graduate Committee for the declared program of study, the student selects a thesis committee consisting of at least three members, two of whom must be from the faculty in the Sociology Department. The chair of the committee must also be a tenured or tenure-track faculty member in the department. The student may enroll in up to 6 units of thesis/research hours (SOCI 299) with the professor designated as chair of the committee. The student must successfully pass a final oral defense of the thesis and the thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

### Plan B (Project)

After the successful completion of the four required core courses and after receiving approval from the graduate committee for the declared program of study, the student enrolls in 3 units of SOCI 298 with the professor who is selected as the student's advisor. The Project option involves a written paper that investigates or analyzes some facet of a social problem; the exact nature and scope of the project is determined by the student in consultation with his or her advisor.

## Master's Requirements (30 units)

### Core Courses (12 units)

- SOCI 200 - Sociological Practice 3 *unit(s)*
- SOCI 201 - Graduate Sociological Theory 3 *unit(s)* (GWAR)
- SOCI 204 - Quantitative Data Analysis 3 *unit(s)*
- SOCI 205 - Seminar in Qualitative Research Methods 3 *unit(s)*

### Electives (12-15 units)

12 units 200-level Sociology electives planned in consultation with the Graduate Coordinator. Up to 6 units may be approved 100-level courses in Sociology or 200-level courses in another department. Students in the Plan B (Project) option take 15 units of elective coursework.

### Culminating Experience (3-6 units)

**Complete One Option (Plan A Thesis or Plan B Project):**

**Plan A (Thesis) (6 units)**

- SOCI 299 - Master's Thesis or Project *1-6 unit(s)*
- Oral Thesis Defense

**Plan B (Project) (3 units)**

- SOCI 298 - Special Study *1-4 unit(s)*

**Total Units Required (30 units)**

Elective courses must be planned in consultation with the Graduate Coordinator.

In all plans, students may have only 12 units of C/NC courses.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Asian American Studies Minor

**University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

#### Minor Requirements (15 units)

##### Required Courses (9 units)

- AAS 33A - Asian Americans in U.S. History I *3 unit(s) (D2)*
- AAS 33B - Asian Americans in U.S. History II *3 unit(s) (M7)*
- AAS 175 - Asian American Communities *3 unit(s) (S)*

##### Additional Course (3 units)

Complete one course from:

- AAS 185 - Multicultural Perspectives within American Society *3 unit(s)*
- WOMS 160 - Queering Gender, Race, and Class *3 unit(s)*

##### Electives (3 units)

Complete one course from:

- AAS 125 - Filipino Experience in the United States *3 unit(s)*
- AAS 170 - Special Topics in Asian American Studies *3 unit(s)*
- AAS 186 - The Vietnamese Experience in America *3 unit(s)*

**Total Units Required (15 units)**

## Sociology Minor

The minor in sociology complements a large number of majors including any of the social sciences, business, journalism, radio and TV, child development, justice studies, kinesiology, education, social work and others. SOCI 1 and any other five sociology courses, at least three of which must be upper division = 18 total semester units required for the minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (18 units)**

- SOCI 1 - Introduction to Sociology *3 unit(s) (D1)*
- Other courses approved by the minor advisor, at least three of which must be upper division\*

**Total Units Required (18 units)**

\*SOCI 120, SOCI 180, SOCI 196 Experimental Courses and SOCI 199H may be applied to the major when they have direct relevance; such relevance is determined by advisor.

## Sociology of Education Minor

**Program Coordinator:** Professor Peter Chua

**Office:** DMH 223

**Phone:** 408-924-5330

**Email:** peter.chua@sjsu.edu

California's K-12 public school population has undergone a major demographic change in the last decade. Educational policy leaders are concerned with educational equity, graduation rates, attrition, retention, and increasingly segregated schools. Preparation for the changing landscape of K-12 education includes analyzing, assessing, and developing sound policy recommendations to ensure that public schools are meeting the needs of the diverse student population. The Sociology of Education minor provides students with the latest research and reports on the status of education on a local, state, national, and international level.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (18 units)**

In the course listings below, click on the course title to view the course description. GE areas are shown in parentheses. See General Education Course Attributes in the SJSU Catalog for definitions of codes.

## Required Courses (6 units)

- SOCI 1 - Introduction to Sociology 3 *unit(s)*
- SOCI 177 - Sociology of Education 3 *unit(s)*

## Minor Electives (12 units)

Complete four courses:

- SOCI 143 - Feminist Perspectives on Gender and Education 3 *unit(s)*
- SOCI 144 - Education for Liberation 3 *unit(s)*
- SOCI 147 - Education and Global Justice 3 *unit(s)*
- SOCI 148 - Current Topics and Trends in Education 3 *unit(s)*
- SOCI 162 - Race and Ethnic Relations 3 *unit(s)*
- SOCI 179 - Sociology of Higher Education 3 *unit(s)*
- CCS 185 - Teaching in a Diverse Society 3 *unit(s)*

## Total Units Required (18 units)

# Women, Gender, and Sexuality Studies Minor

### Overview

The Women, Gender, and Sexuality Studies Program at San Jose State is committed to interdisciplinary scholarship and teaching based on global feminist frameworks. WGSS curriculum investigates how lives are shaped by gender and gender identity, race, class, sexuality, and nation. The program emphasizes the importance of understanding gender as integral to social and political structures of power. Students will obtain skills to cultivate critical thinking, cultivation of dialogue, coalition building, appreciation of diversity, and contribution to social change based on feminist frameworks. The goal of the WGSS program includes integrating the academic and experiential, thereby contributing to social change and justice.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (15 units)

### Required Courses (12 units)

- WOMS 10 - Women, Gender, and Sexuality Studies 3 *unit(s)* (D1)

Complete Nine Units From:



- WOMS 20 - Women of Color in the US 3 *unit(s)* (D2)
- WOMS 101 - Sex, Power, and Politics 3 *unit(s)* (S)
- WOMS 102 - The Global Study of Women 3 *unit(s)* (V)
- WOMS 112 - Women in the Global Economy 3 *unit(s)*
- WOMS 114 - Politics of Mothering and Reproduction 3 *unit(s)*
- WOMS 160 - Queering Gender, Race, and Class 3 *unit(s)*
- WOMS 169 - Sexualities and the Body 3 *unit(s)*
- WOMS 189 - Islamic Perspectives on Gender 3 *unit(s)*

## Electives (3 units)

Complete one course from:

- CCS 160 - Gender and Sexuality in the Chicana/o Community 3 *unit(s)* (S)
- SOCI 172 - Lesbian, Gay, Bi, Transgender Studies 3 *unit(s)*
- SOCI 174 - Sexualities 3 *unit(s)*
- WOMS 107 - Psychology of Women 3 *unit(s)*
- WOMS 131 - Gender, Sexuality, and Religion 3 *unit(s)*
- WOMS 156 - Black Women Writers: Race, Culture and Resistance 3 *unit(s)*
- WOMS 175 - Sociology of Masculinities and Femininities 3 *unit(s)*
- WOMS 180 - Individual Studies 1-4 *unit(s)*
- WOMS 187 - Feminist Perspectives on Gender and Education in the U.S. 3 *unit(s)*
- WOMS 190 - Internship 1-4 *unit(s)*

## Total Units Required (15 units)

*AAS 20 - Women of Color in the US*

3 *unit(s)*

Constructs knowledge of the historical and contemporary experience of women of color. Focuses on Native American, African American, Latina, and Asian American women and considers contributions they have made to the shaping of the nation.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*AAS 25 - The Changing Majority: Power and Ethnicity in America*

3 *unit(s)*

Comparative and historical analysis of racial minorities. Focus on Euro American response to American Indians, Asian Americans, African Americans and Mexican Americans to provide understanding of minority experience in the U.S. as well as American culture.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*AAS 33A - Asian Americans in U.S. History I*

3 unit(s)

Historical and political processes shaping U.S. culture, institutions and society from before European expansion to the Civil War. Focus on the roles of workers, immigrants, and people of color from a comparative perspective.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

**Note(s):** Must complete the entire sequence (AAS 33A and AAS 33B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*AAS 33B - Asian Americans in U.S. History II*

3 unit(s)

Historical and political factors that shaped U.S. culture, institutions and society from the mid-nineteenth century to the current era. Focus on experiences of Asian Americans as well as other immigrants and people of color.

*Satisfies D3 + US123: Social Issues and American Institutions*

**Prerequisite(s):** AAS 33A

**Grading:** Graded

**Note(s):** Must complete the entire sequence (AAS 33A and 33B) to satisfy U.S. History, U.S. Constitution and California Government (US1,2,3).

*AAS 125 - Filipino Experience in the United States*

3 unit(s)

Filipinos in the United States beginning with immigration and culminating with analysis of past and contemporary issues facing Filipino Americans.

**Grading:** Graded

*AAS 133 - Introduction to Social Issues in Planning*

4 unit(s)

Contemporary social issues related to urban and regional planning. Assessment of community social needs and resident planning. Focus on ethnic areas such as African, Asian and Mexican American neighborhoods.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*AAS 145 - Urban Policy and Its Impact on Inner City Residents*

4 unit(s)

Effects of public policy decisions on inner city populations. Implications of urban planning processes for differential consumption costs of public goods and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AAS 170 - Special Topics in Asian American Studies*

3 unit(s)

Focus varies each semester and is announced in the schedule of classes. Repeatable for credit with program coordinator approval.

**Grading:** Graded

*AAS 175 - Asian American Communities*

3 unit(s)

Asian American demography, institutions and contemporary issues.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*AAS 180 - Individual Studies*

1-4 unit(s)

Individual study and research.

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

*AAS 185 - Multicultural Perspectives within American Society*

3 unit(s)

Examination of historical and sociocultural perspectives of American ethnic minorities. Theoretical and methodological approaches to the study of American ethnic minorities.

**Prerequisite(s):** Upper division or Graduate/PBAC standing.

**Grading:** Graded

*AAS 186 - The Vietnamese Experience in America*

3 unit(s)

The experience of Vietnamese refugees from their exodus after the end of the Vietnam War in 1975 to their resettlement in America, emphasizing processes by which a new immigrant group is incorporated into the society.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*AAS 190 - Internship*

1-4 unit(s)

On-site experience with an Asian American community organization. Regular class meetings scheduled to discuss knowledge, skills and ideas related to the internship experience. Repeatable for credit with program coordinator approval.

**Prerequisite(s):** AAS 33B or instructor consent.

**Grading:** Credit/No Credit

*AAS 192 - History of Japanese Americans*

3 unit(s)

The Japanese in America from approximately 1800. Includes relocation, wartime conditions, post-war history and contemporary situations.

**Grading:** Graded

*SOCI 1 - Introduction to Sociology*

3 unit(s)

How does society affect individual behavior and how does individual behavior affect society? Influence of social institutions and arrangements (family, school, workplace, politics, etc.) on roles, groups, values. Basic sociological theories and methods. Careers, specializations. Required for majors, minors.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*SOCI 15 - Statistical Applications in the Social Sciences*

3 unit(s)

Introduction to statistical applications, particularly statistical inference, including central tendency, variation, normal distributions, probability, estimation, hypothesis testing, measures of association, correlation, linear regression and the analysis of variance.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III, or completion of a GE Area B4 course with a grade of C- or better. Corequisite weekly supported instruction required for Enrollment Category M-III, and recommended for M-II.

**Grading:** Graded

*SOCI 80 - Social Problems*

3 unit(s)

Sociological analysis of selected contemporary social problems such as housing and homelessness, economy and employment, environment and consumerism, family and divorce, crime and drugs, politics and media, race and gender, wealth and poverty, war and peace. Required for majors.

*Satisfies D3: Social Issues/Ethnic Studies*

**Grading:** Graded

*SOCI 92 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*SOCI 100W - Writing Workshop*

3 unit(s)

Practice in improvement of writing and research skills appropriate to the field of sociology, including formal reports, journals and articles. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** SOCI 1; A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Sociology, Behavioral Science, and Chicana Chicano Studies majors only. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Required for Sociology Majors. Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*SOCI 101 - Social Theory*

3 unit(s)

Comparative analysis of micro and macro sociological theories and their origins, including, but not limited to, conflict theories, consensus theories, structural functionalism, symbolic interaction and recent theoretical developments. Required for majors.

**Prerequisite(s):** SOCI 1 (or equivalent) and upper division standing.

**Pre/Corequisite(s):** SOCI 100W.

**Grading:** Graded

*SOCI 102 - Introduction to Statistics*

3 unit(s)

Introduction to measures of central tendency, variation, correlation and regression, probability, estimation and hypothesis testing.

**Prerequisite(s):** SOCI 1 (or equivalent).

**Grading:** Graded

*SOCI 103 - SPSS Computer Analysis*

1 unit(s)

Statistical analysis of social science data using SPSS. Online course with periodic required on-campus meetings.

*Misc/Lab: Activity 2 hours.*

**Prerequisite(s):** SOCI 1 (or equivalent) and must have completed or be concurrently enrolled in an introductory statistics course.

**Grading:** Graded

*SOCI 104 - Quantitative Research Methods*

3 unit(s)

Quantitative research methods including survey research design, hypothesis formulation, questionnaire and interview

design, scaling, sampling and data preparation and SPSS analysis. Completion of a class research project plus individual research reports. Required for majors.

**Prerequisite(s):** SOCI 1 or equivalent, SOCI 15 or SOCI 102 or approved Statistics course from another school; SOCI 100W, SOCI 101 and upper division standing.

**Grading:** Graded

*SOCI 104B - Advanced Quantitative Research Methods*

*3 unit(s)*

Quantitative research project, typically applied, focused on a particular topic. Emphasis is given to research on local issues. Students will define research problems, design appropriate data gathering methods, collect data, conduct data analyses, and submit written research reports in professional formats.

**Prerequisite(s):** SOCI 1, SOCI 15 or SOCI 102, SOCI 100W, SOCI 101, SOCI 104.

**Grading:** Graded

*SOCI 105 - Qualitative Research Methods*

*3 unit(s)*

Philosophy and logic of research design, interviewing techniques, field methods, issues of participant observation, theoretical perspectives, content analysis and qualitative microcomputer techniques. Required for Sociology majors.

**Prerequisite(s):** SOCI 1 or equivalent, SOCI 100W, SOCI 101 and upper division standing.

**Grading:** Graded

*SOCI 105B - Advanced Qualitative Research Methods*

*3 unit(s)*

Involves planning and conducting an in-depth research project utilizing interviews and/or participant observation. Students will design research project, collect data and take field-notes, code and analyze data, and write-up results. Project may involve exploration of a local issue.

**Prerequisite(s):** SOCI 1, SOCI 100W, SOCI 101 and SOCI 105.

**Grading:** Graded

*SOCI 116 - Global Society*

*3 unit(s)*

Examination of global social issues, evaluation of the impact of change on world communities and analysis of the response of specific groups to emerging problems and opportunities. Required for majors.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 118 - Sociology of Human Rights and Social Justice*

*3 unit(s)*

Analyze meanings and practices of human rights violation and promotion by exploring the social consequences of issues such as war crime, sexism, migrant rights, and social displacement and by reflecting on prevailing and alternative institutions for social justice.

**Prerequisite(s):** SOCI 1 or equivalent

**Grading:** Graded

*SOCI 120 - Contemporary Social Issues*

3 unit(s)

A current issue in contemporary society. Content differs each semester. Repeatable for 6 unit maximum of SOCI 120, SOCI 123 or any combination.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 122 - Women in the Second Half of Life*

3 unit(s)

The roles and problems of the older woman in a changing society. Societal attitudes, stereotypes, employment and interaction patterns. Opportunity for focus on specific areas of interest.

**Prerequisite(s):** Upper division standing

**Grading:** Graded

*SOCI 127 - Community-Based Participatory Research*

3 unit(s)

This course integrates interdisciplinary theory and practice in developing a situated understanding of community-based participatory research (CBPR) toward redressing environmental inequities. Students will apply these theories and practices in their own environmental research and advocacy projects regarding local environmental issues.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*SOCI 140 - Sociology of Media*

3 unit(s)

Examines the historical development of popular mass media and its role in contemporary society. Explores the relationship between culture, social behavior, and various media forms. Analyzes how gender, race, class, and sexuality have been depicted and represented in media images.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 141 - Environmental Sociology*

3 unit(s)

This course will analyze how human beings interact with their environment from both macro and micro sociological perspectives. The course will address a number of other relevant topics, including environmental classism, environmental racism and policy responses to environmental problems.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*SOCI 142 - Critical Native American Studies*

3 unit(s)

Investigation of current and historical issues Indigenous peoples in the United States face or have faced. Unpacks the complex relationship Native nations have developed with the United States, and the impact the government-to-government relationship has on Indigenous societies.

**Grading:** Graded

*SOCI 143 - Feminist Perspectives on Gender and Education*

3 unit(s)

The role of gender in the educational system in the United States from both a historical and contemporary context. Focus on the significance of schools as the primary socializing institution for boys and girls.

**Prerequisite(s):** Junior standing or instructor consent.

**Grading:** Graded

*SOCI 144 - Education for Liberation*

3 unit(s)

Critical and sociological examination of attempts to address inequalities and disparities within community-oriented learning programs and movements. Focus on nonformal learning programs associated with workers, education, adult and lifelong education (including anti-literacy and popular theater), and pro-people popular education (related to national liberation, pro-democracy, human rights, antiracist, pro-migrant, feminist, and youth movements).

**Grading:** Graded

*SOCI 145 - Community Mental Health*

3 unit(s)

Comprehensive analysis of community mental health using a socio-ecological framework. Intersection of race, socioeconomic status, gender, sexual orientation, and mental health is examined. Emphasis is on prevention and recovery.

**Prerequisite(s):** Any 100W or instructor consent.

**Grading:** Graded

*SOCI 146 - Work, Power, and Leisure*

3 unit(s)

Explores power in organizational settings where we work and play, and how those settings affect the family, the economy and communities. Settings examined may include corporations, cooperatives, social change organizations, community organizations, non-profit organizations such as hospitals and schools.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 147 - Education and Global Justice*

3 unit(s)

Exploration of the relationship between formal education and social justice issues, as well as formulation and evaluation of solutions to educational problems and inequalities. using global, comparative, cross-national, and Third World development evidence.



**Grading:** Graded

*SOCI 148 - Current Topics and Trends in Education*

3 unit(s)

Analysis of the current environment of sociology of education from both a macro and micro perspective through sociological, political, philosophical and economic perspectives. Includes the study of qualitative descriptions and quantitative trends of contemporary issues in the field of sociology of education.

**Grading:** Graded

*SOCI 151 - Violence in the Family*

3 unit(s)

A sociological examination of violence in families focusing on the causes and consequences of violence and on the ways in which various social institutions and community agencies respond to violence among intimates.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 154 - Sociology and Non-Conforming Behavior*

3 unit(s)

Sociological analysis of behavior outside of social conventions including crime, mental illness, suicide and chemical dependency.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 160 - Immigration and Identity*

3 unit(s)

Examination of topics related to immigration and population movements. Includes the historical context of major migrations, legal, political and social issues and debates, opportunities, prejudices, immigrant communities, intergenerational tensions, and social and personal identity pressures.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 161 - City Life*

3 unit(s)

The city as a setting for diverse lifestyles. Challenges facing urban dwellers and adaptive strategies they take. Comparison of city, suburb and rural countryside as social environments.

**Prerequisite(s):** Upper Division or instructor consent

**Grading:** Graded

*SOCI 162 - Race and Ethnic Relations*

3 unit(s)

Analysis of racial and ethnic groups in American society; contacts and conflicts; prejudice and discrimination; dominant and subordinate group status; social structure of racial and ethnic inequality within society. Comparison of global race and ethnic relations. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SOCI 163 - Social Change*

3 unit(s)

Analysis of causes, consequences and the role of individuals, organizations and social structures in producing social change.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 164 - Social Action*

3 unit(s)

The tactics and strategies of social action. Topics may include applying social action to the local community, studying current and past U.S. and international social action organizations, or examining theories of social movements. Repeatable once when content changes.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 164SL - Social Action*

3 unit(s)

The tactics and strategies of social action. Topics may include applying social action to the local community, studying current and past U.S. and international social action organizations, or examining theories of social movements. Repeatable once when content changes.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 165 - Poverty, Wealth and Privilege*

3 unit(s)

An examination of the causes and consequences of inequality along the dimensions of social class, race/ethnicity, gender, citizenship status, and/or sexualities. Approach may be local, national or global.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 166 - Medical Sociology*

3 unit(s)

Sociological analysis of medical and mental health institutions, values and roles. Patient-doctor interaction, influence of hospital structure on health care, social class and illness, cultural determinants of illness and related areas of old age (gerontology) and death.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 169 - Political Sociology*

3 unit(s)

Analysis of cultural, social and institutional foundations of political policies and actions. Emphasis on patterns affecting political behavior and processes in the industrialized and developing countries.

**Prerequisite(s):** SOCI 1 or equivalent.

**Grading:** Graded

*SOCI 170 - Sociology of Family*

3 unit(s)

Examines the historical development of family in the context of social, cultural, political, and economical inequalities, and how intersections of gender, race, class, nationality, sexuality, and age impact understandings of family and intimacy. Explores relationships within families and new family forms.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 171 - Person and Society*

3 unit(s)

Analyzes our "self" as socially created and maintained through everyday interactions. Explores how individuals manage and protect self identity in settings, e.g. school, family, work. Effects of race/ethnicity, gender, sexuality, and age on definitions of self and reality.

**Prerequisite(s):** SOCI 1 or instructor consent.

**Grading:** Graded

*SOCI 172 - Lesbian, Gay, Bi, Transgender Studies*

3 unit(s)

Explores lesbian, gay, bisexual, transgender, and intersex communities. Analyzes sexual behavior, attitudes, and identities from historical, cross-cultural, and "insider" and "outsider" perspectives. Presents social reactions to LGBT movements and persons. Includes current stereotypes, misinformation, and movements to achieve equality.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 173 - Socialization and Identity*

3 unit(s)

Personality formation in the context of family, social interaction and institutions of socialization such as workplace, family and community. Emphasis on childhood and the social processes that mold basic beliefs and values in the formation of adult identity.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 174 - Sexualities*

3 unit(s)

Examines diverse social constructions of sexual intimacy, meanings, identities, practices, and power embedded in relationships, communities and organizations. Sociological themes of morality, control, sexual citizenship, science and the production of sexual subjects, and the political economy of sex may be examined.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 175 - Sociology of Masculinities and Femininities*

3 unit(s)

Examination and analysis of social construction of gender through interaction and social institutions. Explores gender-based identities and how intersections of gender, race, class, and sexuality shape men's and women's experiences. Examines theories of gender and gender-based social movements.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 176 - Sociology of Everyday Life*

3 unit(s)

Examination of micro-sociology, small group processes, and interactions. Using the framework of Everyday Life, this includes studies of power, status, communication, cooperation, conflict resolution, task performance. Provides understanding of small formal and informal groups, work groups and intimate relationships.

**Prerequisite(s):** SOCI 1 or instructor consent

**Grading:** Graded

*SOCI 177 - Sociology of Education*

3 unit(s)

This course applies sociology of education theory to the analysis of the relationship between society and education. The course focuses on race/ethnicity, class and gender in the U.S. educational system.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*SOCI 178 - Sociology of Childhood*

3 unit(s)

Examination of sociological issues, theories, and research on childhood from infancy to adolescence, including the role of social institutions in shaping the childhood experience and the emergence of peer cultures that change

societies.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*SOCI 179 - Sociology of Higher Education*

3 unit(s)

This course will examine the institution of higher education and its relationship to and with society. The course will address a number of other relevant topics, including educational inequalities, student debt and consequences of policy.

**Prerequisite(s):** Upper division Standing

**Grading:** Graded

*SOCI 180 - Individual Studies*

1-4 unit(s)

**Prerequisite(s):** Instructor consent and department chair approval.

**Grading:** Credit/No Credit

*SOCI 181 - Service Internship*

1-6 unit(s)

Supervised placement in practical situations where sociologists are employed, including correctional services, community planning, industry, research, social action and social welfare agencies.

**Prerequisite(s):** SOCI 1 or equivalent, SOCI 100W, SOCI 101 and upper division standing, or graduate standing. Department Chair approval.

**Grading:** Credit/No Credit

*SOCI 181B - Sociology Career Capstone*

3 unit(s)

Capstone course to expand undergraduate senior opportunities and options. Analyzes trends in sociology; explores employment and careers, reflection and assessment of learning in the major.

**Prerequisite(s):** SOCI 1, SOCI 100W, SOCI 101, and SOCI 104 or SOCI 105.

**Grading:** Graded

**Note(s):** Students must have taken at least one of the required research method courses before enrolling in the capstone course.

*SOCI 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*SOCI 193 - Behavioral Science in Practice*

3 unit(s)

Capstone workshop for behavioral science majors. Students assess methods and knowledge of anthropology,

psychology and sociology, and synthesize them by reflecting upon case studies of individual, organizational, community, and global issues. Emphasis is on cooperative learning, reflection and synthesis of skills and knowledge.

**Prerequisite(s):** Senior standing, declared major in Behavioral Science or Behavioral Science double major.  
**Grading:** Graded

*SOCI 199H - Senior Honors Thesis*

1-4 unit(s)

Preparation and writing of an original project. Repeatable for a total of 4 units.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Sociology Honors Program student.  
**Grading:** Mandatory CR/NC/RP

*SOCI 200 - Sociological Practice*

3 unit(s)

Introduces graduate students to the theoretically informed practice of sociology with a particular emphasis on the analysis of social problems. Covers topics such as program evaluation, community and institutional research, and policy advocacy.

**Prerequisite(s):** Graduate Standing  
**Grading:** Graded

*SOCI 201 - Graduate Sociological Theory*

3 unit(s)

Introduction to the theories and concepts sociologists use in the study of society. The course emphasizes contemporary social theories, grounded in the classical canon of Marx, Durkheim, and Weber. Application of theory to contemporary social problems. Content may vary with instructor.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate Standing.  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*SOCI 204 - Quantitative Data Analysis*

3 unit(s)

Covers foundations of statistical analyses as well as the statistical techniques most commonly practiced by quantitative social science researchers such as univariate descriptive statistics, bivariate relationships, and multivariate modeling.

**Prerequisite(s):** Graduate Standing  
**Grading:** Graded

*SOCI 205 - Seminar in Qualitative Research Methods*

3 unit(s)

Involves planning and conducting an in-depth research project utilizing interviews and/or participant observation. Students will design research project, collect data and take field-notes, code and analyze data, and write-up results. Project may involve exploration of a local issue.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SOCI 216 - Seminar in Global Topics*

3 unit(s)

Explores selected areas of interest in the sociological study of social processes, institutions, and organizations globally, transnationally, and internationally. Course content varies.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SOCI 223 - Seminar in Sociological Issues*

3 unit(s)

Analysis of a current issue in sociology which is not covered by other graduate seminars. Content differs each semester. Repeatable once with advisor consent when content changes.

**Grading:** Graded

*SOCI 254 - Seminar in Deviance and Social Control*

3 unit(s)

Historical and comparative theories of deviance, its function in society and its relation to formal and informal systems of regulation and control.

**Grading:** Graded

*SOCI 262 - Seminar in Race and Ethnic Relations*

3 unit(s)

Analysis of sociological theories of race relations and racism, social structural conditions of race and racial identity formation, society's institutional policies and practices that affect racial inequality.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SOCI 263 - Seminar in Social Change*

3 unit(s)

Theories of the origins and processes of social change. Analysis of efforts to control or to produce social change. Problems of research on the causes, effects and prediction of social change.

**Grading:** Graded

*SOCI 270 - Seminar in Sociology of Family*

3 unit(s)

Comparative analysis of institutional forms and family small group systems including alternative life styles and minority families. Problems of the family. Changes in family roles and in family law.

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SOCI 275 - Seminar in Gender Issues*

3 unit(s)

Analysis of contemporary gender issues including an examination of existing gender theories and ways in which gender intersects with other forms of inequality. Focus on social institutions such as family, media, and workplace in order to examine the social, economic, and cultural factors that create gender and shape understandings of femininity and masculinity.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SOCI 281 - Internship in Sociology*

1-6 unit(s)

Supervised placement in practical situations where sociologists are employed: correctional services, community planning, industry, counseling agencies and others. Course is repeatable for a total of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

**Note(s):** Open to graduate students by arrangement with the department.

*SOCI 298 - Special Study*

1-4 unit(s)

Advanced individual research and projects. May not be related to thesis topic. Course is repeatable for a total of 4 units.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Consent of instructor and approval by graduate advisor or department chair.

**Grading:** Mandatory CR/NC/RP

*SOCI 299 - Master's Thesis or Project*

1-6 unit(s)

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Consent of thesis committee chair and approval by graduate advisor or department chair.

**Grading:** Mandatory CR/NC/RP



*SOCI 1290R - Culminating Experience Supervision*

1 unit(s)

Continuing analysis of data and writing of thesis.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP in a preceding semester for a Thesis or Special Project course.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*SOCS 15 - Statistical Applications in the Social Sciences*

3 unit(s)

Introduction to statistical applications, particularly statistical inference, including central tendency, variation, normal distributions, probability, estimation, hypothesis testing, measures of association, correlation, linear regression and the analysis of variance.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III, or completion of a GE Area B4 course with a grade of C- or better. Corequisite weekly supported instruction required for Enrollment Category M-III, and recommended for M-II.

**Grading:** Graded

*SOCS 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*SOCS 177 - Sociology of Education*

3 unit(s)

This course applies sociology of education theory to the analysis of the relationship between society and education. The course focuses on race/ethnicity, class and gender in the U.S. educational system.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*SOCS 192 - International Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*WOMS 5Q - Gender, Race & Sexuality in Media*

3 unit(s)

This course uses a cultural studies approach to explore the production and consumption of contemporary media in our everyday lives with a focus on race, class, gender, sexuality, and nation.

*Satisfies D1: Human Behavior*

**Prerequisite(s):** First term freshmen only.

**Grading:** Graded

**Note(s):** All courses with a 'Q' suffix are designated as First Year Experience courses.

*WOMS 10 - Women, Gender, and Sexuality Studies*

3 unit(s)

Interdisciplinary introduction to core concepts and analytical tools addressing the diversity of human experience cross cut by gender, sexuality, embodiment, and class location. Students will become familiar with key contemporary and historical debates in both global and local contexts.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*WOMS 20 - Women of Color in the US*

3 unit(s)

Constructs knowledge of the historical and contemporary experience of women of color. Focuses on Native American, African American, Latina, and Asian American women and considers contributions they have made to the shaping of the nation.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

*WOMS 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*WOMS 101 - Sex, Power, and Politics*

3 unit(s)

Multidisciplinary introduction to traditional and new images, roles, experiences, ethnic similarities and differences, and contemporary problems of American women. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*WOMS 102 - The Global Study of Women*

3 unit(s)

Survey of literature on the interaction of gender and forces of globalism. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*WOMS 107 - Psychology of Women*

*3 unit(s)*

Sex-role development of women in terms of bio-social factors involved in intellectual and personal-emotional functions. Psychological theory and research.

**Prerequisite(s):** PSYC 1.

**Grading:** Graded

*WOMS 112 - Women in the Global Economy*

*3 unit(s)*

Women's participation in the economy, US and internationally: paid employment, consumption, subsistence labor, reproduction, volunteerism. It connects daily life activities with international economic trends, with particular attention to race, class, implications for families and strategies for equity.

**Prerequisite(s):** WOMS 10, WOMS 20, WOMS 101 or instructor consent.

**Grading:** Graded

*WOMS 114 - Politics of Mothering and Reproduction*

*3 unit(s)*

Explore contemporary definitions and values inscribed in issues pertaining to mothers and reproduction. It will be built upon three literatures: discourses of law and legality, discourses of nature and science, and discourses based in feminist thinking.

**Prerequisite(s):** Upper Division standing or instructor consent.

**Grading:** Graded

*WOMS 120 - Special Topics in Women's Studies*

*3 unit(s)*

Focus announced in the schedule of classes. Repeatable for credit with program coordinator approval.

**Prerequisite(s):** WOMS 10, WOMS 20, WOMS 101 or instructor consent.

**Grading:** Graded

*WOMS 121 - Philosophy and Feminism*

*3 unit(s)*

A philosophical examination of writings that deal with issues of special concern to women, with emphasis on feminist writings.

**Prerequisite(s):** 3 units of philosophy or upper division standing.  
**Grading:** Graded

*WOMS 122 - Women in the Second Half of Life*

3 unit(s)

The roles and problems of the older woman in a changing society. Societal attitudes, stereotypes, employment and interaction patterns. Opportunity for focus on specific areas of interest.

**Prerequisite(s):** Upper division standing.  
**Grading:** Graded

*WOMS 131 - Gender, Sexuality, and Religion*

3 unit(s)

Women's roles and gendered categories within diverse religions. Feminist critiques, reforms, and creations of religious institutions. The political and feminist dimensions of women's religious experience. Understanding the roles of sexuality in religion.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*WOMS 156 - Black Women Writers: Race, Culture and Resistance*

3 unit(s)

Comparative analysis of the meaning and developmental stages of womanhood for women of African ancestry as depicted in the fiction of women of African ancestry. Emphasis on the role of race and culture in shaping contemporary conceptions of womanhood among Black women.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*WOMS 160 - Queering Gender, Race, and Class*

3 unit(s)

Queer analysis of race and class diversity; social, political, and economic hierarchies of race, class, and gender in the U.S. Topics may include sexuality, racism, LGBT experience, the welfare system.

**Grading:** Graded

*WOMS 169 - Sexualities and the Body*

3 unit(s)

This course explores the social construction of sexuality and the body from a feminist perspective. It investigates various aspects of sexuality and gendered bodies including identity, community, and social movements based on intersections of race, gender, sexuality, culture, and nation.

**Prerequisite(s):** Upper Division Standing or instructor consent.  
**Grading:** Graded

*WOMS 175 - Sociology of Masculinities and Femininities*

3 unit(s)

Examination and analysis of social construction of gender through interaction and social institutions. Explores gender-based identities and how intersections of gender, race, class, and sexuality shape men's and women's experiences. Examines theories of gender and gender-based social movements.

**Prerequisite(s):** SOCI 1.

**Grading:** Graded

*WOMS 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Minor or emphasis in women's studies.

**Grading:** Credit/No Credit

*WOMS 182 - Women in Literature*

4 unit(s)

Image of women in literature or works of significant women writers.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*WOMS 187 - Feminist Perspectives on Gender and Education in the U.S.*

3 unit(s)

The role of gender in the educational system in the United States from both a historical and contemporary context. We will focus on the significance of schools as the primary socializing institution for boys and girls.

**Prerequisite(s):** Junior standing or instructor consent.

**Grading:** Graded

*WOMS 189 - Islamic Perspectives on Gender*

3 unit(s)

Contemporary feminist theories analyze premises of gender roles in Islamic cultures and variety of sexual expressions. This class will sensitize students to the diversity of Islamic cultures and communities, in addition to geographical, political, and social locations, like ethnicity and class affect the gender debate in Islamic perspectives.

**Prerequisite(s):** Upper division standing or Instructor Consent.

**Grading:** Graded

**Note(s):** Required for topical major and minor in Women's Studies.

*WOMS 190 - Internship*

1-4 unit(s)

On-site experience with community or campus organization or other agency involved with women's issues. Individual and group advising augments the experiential learning. Repeatable for credit with program coordinator approval.

**Prerequisite(s):** WOMS 101 or instructor consent.

**Grading:** Credit/No Credit

*WOMS 192 - Int'l Program Studies*

*1-12 unit(s)*

**Grading:** Mixed Grading

## Department of Urban and Regional Planning

- Geography
- Urban and Regional Planning

**Office:** Washington Square Hall WSQ 118 (Geography); WSQ 216A (Urban Planning)

**Telephone:** 408-924-5475 (Geography); 408-924-5882 (Urban Planning)

**Email:** urbanplanning@sjsu.edu, geography@sjsu.edu

**Website:** Urban Planning; Geography

### Professors

Asha Weinstein Agrawal  
Shishir Mathur  
Laxmi Ramasubramanian, Chair

### Associate Professors

Kathrine Richardson  
Thomas Lester

### Assistant Professors

Serena Alexander  
Gordon Douglas  
Kerry Rohrmeier  
Ahoura Zandiatashbar

## Department Overview

The Department of Urban and Regional Planning at SJSU offers undergraduate and graduate degrees in Geography, and an accredited Master in Urban Planning degree. The department also offers minors in Geography, Geographic Information Science, and Urban Studies. In addition, the department offers seven advanced graduate certificates emphasizing different focus areas such as affordable housing, community development, environmental planning, geographic information science, real estate development, transportation, and urban design. Planning and geography are multi-disciplinary fields and our world class faculty have diverse disciplinary backgrounds including architecture, economics, history, geography, sociology and urban planning. Our programs emphasize experiential learning and career-oriented academic preparation, enhanced by our downtown San Jose location. The department has cultivated long-standing relationships with industry partners, government agencies, and community-based organizations. Our graduates go onto rewarding careers in Silicon Valley companies such as Apple, Facebook and Google as well as government agencies and non-profit organizations in the Bay Area.

## Certificates

The Department of Urban and Regional Planning at San José State University offers seven advanced certificates (listed below).

The certificate programs are open to graduate degree students enrolled in any program at San José State University (SJSU). Members of the public who hold an undergraduate degree may also complete any of the graduate certificate programs through SJSU's Open University. To earn a certificate, students must complete a total of nine to sixteen units of course work, depending on the certificate. If course work is taken through Open University, the maximum number of units allowed by SJSU policy may be applied towards the MUP degree. In addition, the student must:

- Maintain a minimum GPA of 3.0 over all semester credits of coursework applied towards the certificate.
- Earn a minimum grade of "B Minus" in every course applied towards the certificate.
- Complete all the course work within seven years.

For detailed information on these programs, see the department website or contact the department's Graduate Student Advisor.

## Geography Program Overview

Geographers study places to understand and explain what makes places special and unique. Geographers study the natural environment, the built environment, and the socio-demographic characteristics of people. Geographic Information Science (GIS) uses the power of location integrated with computing technologies to analyze large volumes of data to make informed decisions. As the only Geography degree-granting program in Silicon Valley, the program takes advantage of its downtown San Jose location to emphasize urban and cultural geography, economic geography, and geospatial methods. The program has developed and cultivated long-standing relationships with government agencies, other universities, and the City of San Jose. GIS is a rapidly growing field and our courses will give students the analytic and problem-solving abilities necessary to begin rewarding careers immediately after graduation. Prospective students are encouraged to consult the department website for additional information.

## Departmental Honors Program in Geography

Graduation with departmental honors in geography can be achieved by successful completion of any geography graduate seminar open to those seniors with a 3.5 GPA in geography, or completion of an Honors Thesis under supervision of a department faculty member. Students must have a 3.5 GPA in geography to qualify for an Honors Thesis option.

## Urban Planning Program Overview

Urban planning began at SJSU in 1970 and SJSU offers the only accredited Master in Urban Planning degree in Silicon Valley. Urban planners balance visionary thinking with pragmatic problem solving - working in partnership with multiple stakeholders to address challenges related to growth and change. Urban planners work within the frameworks of formal and informal institutions to solve problems related to affordable housing, climate change, economic development, environmental protection, public health, and transportation. The program has a long history of working in partnership with local communities to address their planning needs. As a graduate program, Urban Planning attracts a diverse student body, including many non-traditional students who come to the program with a wealth of knowledge and experience. The program has a strong network of alumni who work in the region in city, county, and state government agencies, private sector firms, and nonprofit organizations.

# Undergraduate

## Geography, BA

- Department of Urban and Regional Planning
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 44

Major Preparation 3

Major Requirements 73

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details..

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.



## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- GEOG 100W - Writing Workshop 3 *unit(s)* (Z)

## Major Preparation (3 units)

- STAT 95 - Elementary Statistics 3 *unit(s)* (B4) (UNVS 15F and UNVS 15S may be used in lieu of the statistics course required by this major.)

## Major Requirements (73 units)

## Core Geography Courses (21 units)

- GEOG 1 - Geography of Natural Environments 3 *unit(s)* (B1)
- GEOG 10 - Cultural Geography 3 *unit(s)* (D1)
- GEOG 12 - Global Geography 3 *unit(s)* (D2)
- GEOG 105 - Urban Geography 3 *unit(s)*
- GEOG 135 - Qualitative Methods in Geographical Research 3 *unit(s)*
- GEOG 170 - Introduction to Mapping and Geographic Information Systems 3 *unit(s)*

## Complete One Course From:

FLP Study Abroad can be substituted for the Field Study Requirement.

- GEOG 186 - Field Study in Physical Geography 3 *unit(s)*
- GEOG 187 - Field Study in Human and Historical Geography 3 *unit(s)*

## Upper Division Breadth Requirements (36 units)

### Human Geography (9 units)

Complete three unique courses from:

- GEOG 110 - Urbanization in the Global South 3 *unit(s)*
- GEOG 112 - Nations, Cultures, and Territorial Disputes 3 *unit(s)* (V)
- GEOG 113 - Global Cities 3 *unit(s)*
- GEOG 115 - Global Development 3 *unit(s)*
- GEOG 117 - Advanced Economic Geography 3 *unit(s)*
- GEOG 125 - Selected Topics in Human Geography 3 *unit(s)*
- GEOG 161 - City Life 3 *unit(s)*

### Physical Geography (9 units)

Complete three unique courses from:

- GEOG 120 - Food Supply and Agricultural Systems 3 *unit(s)*
- GEOG 121 - Population and Global Change 3 *unit(s)*
- GEOG 124 - Topics in Physical Geography 3 *unit(s)*
- GEOG 130 - Natural Resources 3 *unit(s)*
- GEOG 165 - National Parks 3 *unit(s)*

### Geospatial Techniques and GIS (6 units)

Complete two unique courses from:

- GEOG 107 - Mapping the World 3 *unit(s)*
- GEOG 171 - Advanced Geographic Information Systems 3 *unit(s)*
- GEOG 172 - Cartography: Compilation and Presentation 3 *unit(s)*
- GEOG 173 - Cartography: Dynamic and Interactive Mapping 3 *unit(s)*
- GEOG 175 - Geographic Information Systems: Project Development 3 *unit(s)*

- GEOG 181 - Remote Sensing: Basic Theory and Image Interpretation 3 *unit(s)*
- GEOG 182 - Remote Sensing: Digital Analysis 3 *unit(s)*
- GEOG 195 - Spatial Analysis 3 *unit(s)*

## Regional Synthesis (9 units)

Complete three unique courses from:

- GEOG 110 - Urbanization in the Global South 3 *unit(s)*
- GEOG 113 - Global Cities 3 *unit(s)*
- GEOG 115 - Global Development 3 *unit(s)*
- GEOG 117 - Advanced Economic Geography 3 *unit(s)*
- GEOG 145 - California 3 *unit(s)*
- GEOG 150 - Central and South America and the Caribbean 3 *unit(s)*
- GEOG 155 - Europe 3 *unit(s)*
- GEOG 160 - East and South Asia 3 *unit(s)*
- GEOG 165 - National Parks 3 *unit(s)*
- GEOG 168 - Sub-Saharan Africa 3 *unit(s)*

## Capstone Course (3 units)

- GEOG 199 - Senior Seminar 3 *unit(s)*

## Major Electives (16 units)

## Total Units Required (120 units)

# Master

## Geography, MA

The MA in Geography is offered by the Department of Urban and Regional Planning. Admission to the graduate program is flexible, and potential students are evaluated on a case-by-case basis. A strong record based on either undergraduate performance or employment experience is expected. Graduate students without a geography degree can expect added course work in geographic literature and theory. More information can be found on our web site: [www.sjsu.edu/geography](http://www.sjsu.edu/geography).

## Admissions Requirements

All graduate applicants must submit a complete graduate application by applying through the CSU Cal State Apply system. Additional information regarding university admission requirements in this catalog. Applicants from countries in which the native language is not English must achieve a minimum English language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

## Admissions to Classified Standing

Basic requirements for admission to the Graduate Division are outlined in the Admissions section. In addition, the department requires the following for admission to classified standing:

1. An undergraduate degree in geography or a reasonably related field from an accredited institution.
2. A 3.0 ("B") overall grade point average for the last 60 semester units of academic study.
3. The capability, in the opinion of the Department Graduate Committee, of successfully completing the degree requirements.
4. The removal of deficiencies if preparation differs markedly from the BA - Geography at San José State University.

## Admissions to Conditionally Classified Standing

If not accepted into classified standing, the applicant may qualify for conditionally classified status for which the following will be required:

1. The ability, in the opinion of the Department Graduate Committee, to remove deficiencies which do not exceed the equivalent of one full-time semester of course work.
2. The qualifications to be accepted to classified standing within a reasonable length of time, and the background to conduct studies at the graduate level.

## Requirements for Advancement to Candidacy

The student may be admitted to candidacy for the MA - Geography by complying with requirements of the university as outlined in the Academic Regulations section of this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape). In addition, students must obtain their thesis advisor's approval for their thesis proposal.

Students will complete a course of study designed to prepare them for professional work in their chosen subfield. Accordingly, they will need to take specific courses to support research and project work in that field.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

In consultation with the department advisor, the candidate will develop and pursue a program of study outlined in Plan A or Plan B. The candidate must successfully complete all requirements of the selected plan including the course work specified in the Master's Degree Approved Program.

### **Plan A (with Thesis)**

1. A minimum of eighteen units in geography.
2. The thesis, based on independent research, is to be conducted under the direction of a thesis advisor and must be acceptable to and approved by the Thesis Committee. The Committee consists of the thesis advisor (committee chair), an additional member from the university faculty, and an additional member who may be from outside the university. The thesis topic shall be developed within the departmental foci in consultation with the thesis advisor. The thesis must conform to the university standards of style and form.
3. Final Examination: The thesis must be successfully defended orally before the thesis committee.

### **Plan B (without Thesis)**

1. A minimum of twenty-one units in geography, with at least 50% of the units in graduate-level courses.
2. Project: The student shall present the results of a project in one of the areas of departmental focus. Appropriate projects include research completed for a geography graduate seminar or an independent study conducted under the supervision of a faculty advisor. The results will be reported in a written paper and other materials submitted to the department, and will be presented formally to a geography faculty and student colloquium for acceptance.

## Master's Requirements (30 units)

### Plan A (with Thesis) (30 units)

#### Core Seminar (3 units)

- GEOG 290 - Seminar in Research Design for Geographic Information Science 3 unit(s)

#### Geography Seminars (6 units)

Complete two courses from:

*Courses can be repeated twice if topic changes.*

- GEOG 239 - Geographic Information Technology 3 unit(s) (GWAR)
- GEOG 240 - Qualitative Research Methods 3 unit(s) (GWAR)
- GEOG 279 - Geographic Information Science Applications 3 unit(s) (GWAR)
- GEOG 282 - Advanced Geographic Techniques 3 unit(s) (GWAR)

#### Culminating Experience (6 units)

- GEOG 299 - Master's Thesis or Project 1-6 unit(s)

#### Electives (15 units)

100 or 200-level courses in geography or related fields selected with advisor's approval. Students should take the following courses, depending on their area of focus:

- GEOG 282 - Advanced Geographic Techniques 3 *unit(s)*
- GEOG 195 - Spatial Analysis 3 *unit(s)*

### Three Additional Units

- GEOG 173 - Cartography: Dynamic and Interactive Mapping 3 *unit(s)*
- GEOG 175 - Geographic Information Systems: Project Development 3 *unit(s)*
- GEOG 183

## Plan B (without Thesis) (30 units)

### Core Seminar (3 units)

- GEOG 290 - Seminar in Research Design for Geographic Information Science 3 *unit(s)*

### Geography Seminars (9 units)

Complete three courses from:

- GEOG 239 - Geographic Information Technology 3 *unit(s)* (GWAR)
- GEOG 240 - Qualitative Research Methods 3 *unit(s)* (GWAR)
- GEOG 279 - Geographic Information Science Applications 3 *unit(s)* (GWAR)
- GEOG 282 - Advanced Geographic Techniques 3 *unit(s)* (GWAR)

### Electives (18 units)

*At least 3 units must be 200-level.*

100 or 200-level courses in geography or related fields selected with advisor's approval. Students should take the following courses, depending on their area of focus:

- GEOG 282 - Advanced Geographic Techniques 3 *unit(s)*
- GEOG 195 - Spatial Analysis 3 *unit(s)*

### Three Additional Units

- GEOG 173 - Cartography: Dynamic and Interactive Mapping 3 *unit(s)*
- GEOG 175 - Geographic Information Systems: Project Development 3 *unit(s)*
- GEOG 182 - Remote Sensing: Digital Analysis 3 *unit(s)*

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15. Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Urban Planning, MUP

The MUP program trains skilled professionals who graduate with a strong education in general planning practice and theory as well as specialized training in planning subfields. The program allows students to develop professional skills in an area of specialization such as Affordable Housing and Community Development Finance, Applications of Technology in Planning, Community Design and Development, Environmental Planning, Real Estate Development, or Transportation and Land Use Planning.

Graduates leave the program prepared with practical skills and theoretical knowledge that they can employ in jobs working to improve the quality of life and economic opportunity for all residents of urban regions as well as improving the quality of the natural environment.

A special mission of the program is to provide planning education opportunities for a diverse student population, including working students who prefer to attend the program on a part-time basis.

The MUP is an accredited professional degree program nationally recognized by the Planning Accreditation Board.

Information about the program and important dates can be obtained at the department website:  
[www.sjsu.edu/urbanplanning](http://www.sjsu.edu/urbanplanning).

## Admissions Requirements

Candidates must meet all the university admissions requirements. To complete your application, you must submit materials to two distinct bodies: the SJSU Graduate Admissions and Program Evaluation (GAPE) Office through the online CSU application process and the Urban and Regional Planning Admissions Committee. Each has its own timetable. Approval by both offices is necessary to gain admission to the program. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

1. Materials to be submitted to the SJSU Graduate Admissions and Program Evaluations Office
  - Fill out the on-line application form. The Master of Urban Planning (MUP) program at SJSU is listed on the online application form under Urban Planning.
  - Domestic Students - Submit one set of official transcripts from all higher educational institutions attended (even those where you did not get a degree) to the Graduate Admissions Office. Do not send transcripts to the Department of Urban & Regional Planning.
  - International Students - International students are advised to closely follow guidelines for submitting transcripts and any other supporting documents, including demonstrating competence in English, available on the Graduate Admissions & Program Evaluation website.
2. Materials to be submitted to the Department of Urban and Regional Planning (Admissions Committee)
  - Three original, signed letters of recommendation that come from either university instructors who taught you or supervisors who managed you in paid or volunteer work. It is highly recommended that at least one letter come from a university instructor. If this is not possible, ask your letter writers to include an evaluation of your writing and analysis skills. These letters must be submitted to the Urban and Regional Planning Admissions Committee, not to the SJSU GAPE Office. The department will accept only original, signed letters; faxed or emailed letters will not be accepted.
  - A short biographical statement of purpose (approximately 1.5 single-spaced typed pages) that indicates how a Master of Urban Planning degree will help you to achieve your career objectives. This can be the same statement as included on your online application.
  - Graduate Record Examination (GRE) scores are required for applicants with a GPA below 3.0. Original scores from the testing office must be submitted in a sealed, unopened envelope or sent directly by ETS (the code for SJSU is 4687).

## Requirements for Advancement to Candidacy

Students must complete all university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. In addition, candidates must pass the Writing Skills Test (WST) at SJSU. Candidates with a previous degree from a California State University campus are exempt from the WST requirement.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). For information on the GWAR, please see <http://info.sjsu.edu/gcw.html>.

### Masters Requirements (48 units)

#### Core Courses (26 units)

- URBP 200 - Seminar on Urban and Regional Planning *4 unit(s) (GWAR)*
- URBP 204 - Quantitative Methods *4 unit(s)*
- URBP 225 - Land Use Planning and Law *4 unit(s)*
- URBP 236 - Urban and Regional Planning Policy Analysis: Tools and Methods *4 unit(s) (GWAR)*
- URBP 241 - Planning Sustainable Cities *2 unit(s)*
- URBP 275G - Geographic Information Systems Overview: Urban Planning Applications *1 unit(s)*
- URBP 295 - Capstone Studio: Community Planning *6 unit(s)*
- URBP 297P - Planning Report Preliminary Proposal *1 unit(s)*

#### Electives (16 units)

Sixteen units of coursework chosen from Urban and Regional Planning courses. Students are strongly encouraged to take at least 12 units from within a single MUP specialization. Electives from outside the Urban & Regional Planning Department (either upper-division undergraduate or graduate courses) may be taken, but must first be approved by the Graduate Advisor.

- URBP 103 - Local Government and Politics *4 unit(s)*
- URBP 125 - Urban Anthropology *3 unit(s)*
- URBP 132 - Creating Built Worlds *3 unit(s)*
- URBP 145 - Urban Policy and Its Impact on Inner City Residents *4 unit(s)*
- URBP 163 - Twentieth Century Urban Design *3 unit(s)*
- URBP 185 - Environmental Impact Analysis *4 unit(s)*
- URBP 190 - Advanced Environmental Impact Assessment *4 unit(s)*



- URBP 203 - Collaborative Neighborhood Planning 4 unit(s)
- URBP 205 - Private Development and Urban Planning 3 unit(s)
- URBP 206 - Market Analysis, Appraisal, & Finance of Real Estate Development 3 unit(s)
- URBP 208 - Urban Real Estate Development Studio 3 unit(s)
- URBP 214 - Introduction to Public Management 3 unit(s)
- URBP 223 - Housing Economics and Policy 4 unit(s)
- URBP 226 - Regional Transportation Planning 4 unit(s)
- URBP 231 - Urban Design in Planning 4 unit(s)
- URBP 232 - Urban Design Studio 4 unit(s)
- URBP 233 - Social Issues in Planning 4 unit(s)
- URBP 240 - Environmental Planning 4 unit(s)
- URBP 248 - Spatial Visualization Tech in Urb Plan 1-4 unit(s)
- URBP 250 - Urban Planning Public Finance 4 unit(s)
- URBP 255 - Urban and Regional Growth Management 4 unit(s)
- URBP 256 - Sustainable Transportation Planning 4 unit(s)
- URBP 260 - Environmental Planning Topics 4 unit(s)
- URBP 275 - Urban Planning Topics 1-4 unit(s)
- URBP 276 - Social Media in Planning 1-4 unit(s)
- URBP 278 - Introduction to GIS for Urban Planning 4 unit(s)
- URBP 279 - Advanced GIS for Urban Planning 4 unit(s)
- URBP 280 - Planning Research Topics 1-4 unit(s)

### Culminating Experience (Plan B Only) (6 units)

- URBP 298A - Special Study: Planning Report 3 unit(s)
- URBP 298B - Special Study: Planning Report Completion 3 unit(s)

### Total Units Required (48 units)

All electives must be 100-level or 200-level courses as arranged and approved in conference with the student's advisor. Electives to be taken will depend on the student's background and interests.

Students must earn a "B" or better grade in 100-level classes in order for the department to give credit for those classes towards the MUP degree.

URBP 298A and URBP 298B are graded on a Credit/No credit (CR/NC) basis. Receiving an NC in URBP 298A or URBP 298B has the following implications:

- An "NC" is the equivalent of failing the class. The "NC" will remain permanently on the student's record, although the student GPA is not affected by the "NC".
- Students who receive an "NC" in URBP 298A or URBP 298B can enroll again in the class only if there is space available, with the department giving enrollment priority to students who meet the prerequisites and have not previously taken the class.
- Students who receive an "NC" in URBP 298A or URBP 298B will be placed on administrative-academic probation. To return to good standing, a student must re-enroll in the class and receive a grade of "CR."
- Students who receive a second "NC" in URBP 298A or URBP 298B will be disqualified from the MUP program.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Advanced Certificate in Geographic Information Systems (GIS) Certificate (Graduate)

#### Certificate Prerequisite (3 units)

- GEOG 170 - Introduction to Mapping and Geographic Information Systems *3 unit(s)*

#### Certificate Requirements (15 units)

- GEOG 171 - Advanced Geographic Information Systems *3 unit(s)*
- GEOG 290 - Seminar in Research Design for Geographic Information Science *3 unit(s)*
- Advisor-approved 100- or 200-level elective *3 unit(s)*

#### Complete One Course From:

- GEOG 239 - Geographic Information Technology *3 unit(s) (GWAR)*
- GEOG 279 - Geographic Information Science Applications *3 unit(s) (GWAR)*

#### Complete One Course From:

- GEOG 282 - Advanced Geographic Techniques *3 unit(s) (GWAR)*
- GEOG 286 - Geographic Information Systems: Project Management *3 unit(s)*
- URBP 279 - Advanced GIS for Urban Planning *4 unit(s)*

#### Total Units Required (15 units)

### Affordable Housing and Community Development Finance Certificate (Graduate)

In this certificate program, students gain domain-specific knowledge as well as a deep understanding of interrelationships between urban & regional development, housing markets (especially affordable housing market), and financing of public infrastructure and services.

#### Certificate Core (12 units)

- URBP 223 - Housing Economics and Policy *4 unit(s)*
- URBP 225 - Land Use Planning and Law *4 unit(s)*

- URBP 250 - Urban Planning Public Finance *4 unit(s)*

## Electives (3-4 units)

Complete one course from:

- URBP 205 - Private Development and Urban Planning *3 unit(s)*
- URBP 255 - Urban and Regional Growth Management *4 unit(s)*
- PADM 220 - Non-Profit Management *3 unit(s)*

## Total Units Required (15-16 units)

# Applications of Technology in Planning Certificate (Graduate)

In this certificate program, students develop their knowledge and skills at using information technologies in the planning process. Classes and studies draw on the rich agglomeration of technical applications and skills available in the Silicon Valley region.

## Core Courses (8 units)

- URBP 225 - Land Use Planning and Law *4 unit(s)*
- URBP 278 - Introduction to GIS for Urban Planning *4 unit(s)*

## Electives (1-4 units)

Complete one course from:

- URBP 232 - Urban Design Studio *4 unit(s)*
- URBP 248 - Spatial Visualization Tech in Urb Plan *1-4 unit(s)*
- URBP 276 - Social Media in Planning *1-4 unit(s)*
- URBP 279 - Advanced GIS for Urban Planning *4 unit(s)*

## Total Units Required (9-12 units)

# Community Design and Development Certificate (Graduate)

In this certificate program, students gain the knowledge and skills required to address a community's needs through the design of the physical environment. Courses examine the interactions among social, economic, political, and cultural factors, and the built environment.

## Core Courses (8 units)

- URBP 225 - Land Use Planning and Law *4 unit(s)*
- URBP 231 - Urban Design in Planning *4 unit(s)*

## Electives (1-6 units)

Complete one courses from:

- URBP 232 - Urban Design Studio *4 unit(s)*
- URBP 233 - Social Issues in Planning *4 unit(s)*
- URBP 248 - Spatial Visualization Tech in Urb Plan *1-4 unit(s)*
- URBP 255 - Urban and Regional Growth Management *4 unit(s)*
- URBP 295 - Capstone Studio: Community Planning *6 unit(s)*

## Total Units Required (9-14 units)

# Environmental Planning Certificate (Graduate)

In this certificate program, students develop the knowledge and skills needed to successfully carry out planning and development activities with consideration of the environmental impacts and a goal to achieve more sustainable development.

## Core (8 units)

- URBP 225 - Land Use Planning and Law *4 unit(s)*
- URBP 240 - Environmental Planning *4 unit(s)*

## Electives (4 units)

Complete one course from:

- URBP 185 - Environmental Impact Analysis *4 unit(s)*
- URBP 260 - Environmental Planning Topics *4 unit(s)*

## Total Units Required (12 units)

# Real Estate Development Certificate (Graduate)

In this certificate program, students develop the knowledge and skills needed to initiate, navigate, and manage real estate development projects, with a special emphasis on Northern California.

## Certificate Requirements (13 units)

- URBP 205 - Private Development and Urban Planning *3 unit(s)*
- URBP 206 - Market Analysis, Appraisal, & Finance of Real Estate Development *3 unit(s)*
- URBP 208 - Urban Real Estate Development Studio *3 unit(s)*
- URBP 225 - Land Use Planning and Law *4 unit(s)*

Total Units Required (13 units)

## Transportation and Land Use Planning Certificate (Graduate)

In this certificate program, students learn the principles of transportation and land-use planning at the location and regional levels. In today's rapidly growing regions, planners recognize that transportation and land use planning are intricately connected and must be planned together to allow residents and freight carriers to access destinations quickly and efficiently, improve accessibility options for residents who cannot or choose not to drive, and build economically and environmentally sustainable communities.

Certificate Core (8 units)

- URBP 225 - Land Use Planning and Law 4 unit(s)
- URBP 226 - Regional Transportation Planning 4 unit(s)

Electives (4 units)

Complete one course from:

- URBP 250 - Urban Planning Public Finance 4 unit(s)
- URBP 255 - Urban and Regional Growth Management 4 unit(s)
- URBP 256 - Sustainable Transportation Planning 4 unit(s)

Total Units Required (12 units)

## Minor

### Geographic Information Science Minor

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (15 units)

- GEOG 170 - Introduction to Mapping and Geographic Information Systems 3 unit(s)
- GEOG 171 - Advanced Geographic Information Systems 3 unit(s)

Complete Three Courses From:

*Cartography Sequence*

- GEOG 172 - Cartography: Compilation and Presentation 3 *unit(s)*
- GEOG 173 - Cartography: Dynamic and Interactive Mapping 3 *unit(s)*
- GEOG 175 - Geographic Information Systems: Project Development 3 *unit(s)*
- GEOG 178 - Geographic Information Systems Project 3 *unit(s)*
- GEOG 181 - Remote Sensing: Basic Theory and Image Interpretation 3 *unit(s)*
- GEOG 182 - Remote Sensing: Digital Analysis 3 *unit(s)*
- GEOG 195 - Spatial Analysis 3 *unit(s)*

Total Units Required (15 units)

## Geography Minor

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Requirements (15 units)

Required Courses (9 units)

- GEOG 1 - Geography of Natural Environments 3 *unit(s)* (B1)
- GEOG 170 - Introduction to Mapping and Geographic Information Systems 3 *unit(s)*

Complete One Course From:

- GEOG 10 - Cultural Geography 3 *unit(s)* (D1)
- GEOG 12 - Global Geography 3 *unit(s)* (D2)

Elective Courses (6 units)

Students must select six units from one of the Geography upper division breadth areas.

Total Units Required (15 units)

## Urban Studies Minor

The minor in Urban Studies is a professionally oriented program designed to: 1) familiarize students with the social, economic, political and physical aspects of the major urban issues of our time; and 2) introduce students to basic professional skills and strategies used to improve our urban environment.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (14 units)

### Required Courses (7 units)

- URBP 101 - The City 3 unit(s) (S)
- URBP 136 - Intro to Land Use and Urban Planning 4 unit(s)

### Minor Electives (4 units)

Complete four units from:

*Other courses may be substituted with permission of advisor*

- URBP 120 - Intro to Housing Economics and Policy 4 unit(s)
- URBP 133 - Introduction to Social Issues in Planning 4 unit(s)
- URBP 142 - Introduction to Environmental Planning 4 unit(s)
- URBP 143 - Intro Private Development and Planning 3 unit(s)
- URBP 148 - Intro Spatial Vis Tech in Urb Plan 1-4 unit(s)
- URBP 151 - Introduction to Urban Design 4 unit(s)
- URBP 152 - Introduction to Urban Design Studio 4 unit(s)
- URBP 156 - Introduction to Local Transportation Planning 4 unit(s)
- URBP 160 - Topics in Environmental Planning 4 unit(s)
- URBP 175 - Urban Studies Topics 1-4 unit(s)
- URBP 178 - Intro to Regional Transport Planning 4 unit(s)
- URBP 179A - Fundamentals of GIS for Urban Planning 4 unit(s)
- URBP 179B - Advanced GIS for Urban Planning 4 unit(s)
- URBP 185 - Environmental Impact Analysis 4 unit(s)

### Additional Electives (3 units)

Complete one course from:

*Other courses may be substituted with permission of advisor*

- AFAM 145 - Urban Policy and Its Impact on Inner City Residents 4 unit(s)
- ANTH 125 - Urban Anthropology 3 unit(s)
- ANTH 132 - Creating Built Worlds 3 unit(s)
- ARTH 163 - Twentieth Century Urban Design 3 unit(s)
- CE 121 - Transportation Engineering 3 unit(s)
- ECON 166 - Urban Economics 4 unit(s)
- ENVS 10 - Life on a Changing Planet 3 unit(s) (B2)
- ENVS 124 - Introduction to Environmental Law 3 unit(s)
- ENVS 187 - Environmental Restoration 4 unit(s)
- GEOG 105 - Urban Geography 3 unit(s)
- POLS 103 - Local Government and Politics 4 unit(s)
- STAT 95 - Elementary Statistics 3 unit(s) (B4)
- SOCI 161 - City Life 3 unit(s)

## Total Units Required (14 units)

### *GEOG 1 - Geography of Natural Environments*

3 unit(s)

Atmospheric, biologic and geologic processes that create the natural environments of the world. Discovery of local, regional and global patterns in the location and distribution of environmental phenomena, and the human modifications of natural environments.

*Satisfies B1: Physical Science*

**Grading:** Graded

### *GEOG 10 - Cultural Geography*

3 unit(s)

The human population studied through the perspective of cultural groups, their institutions and geographic distributions, how different people occupy, use, and modify their environment, and the interaction of individuals from one group with those of another.

*Satisfies D1: Human Behavior*

**Grading:** Graded

### *GEOG 12 - Global Geography*

3 unit(s)

Comparative geography of our world: regions and countries, natural environments and resources, settlements and land use, cultural diversity, economic and political patterns.

*Satisfies D2: Comparative Systems*

**Grading:** Graded

### *GEOG 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

### *GEOG 100W - Writing Workshop*

3 unit(s)

Development of skills required for geographical research and writing.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).



*GEOG 105 - Urban Geography*

3 unit(s)

Spatial patterns in the urban environment: City function and morphology; population patterns and functional zonation; analysis of recent changes.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 107 - Mapping the World*

3 unit(s)

Finding, preparing, and using maps, satellite and aerial images, and spatial data to create effective presentations. Includes a basic introduction to geographic visualization through cartography, geographic information systems, and remote sensing for professionals outside geography.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 110 - Urbanization in the Global South*

3 unit(s)

This course explores issues and debates that relate to urbanization in the developing world. Students will gain a general understanding of the concept of urbanization in the developing world, and what are some of the issues, challenges, and policy responses found in these urban environments.

**Prerequisite(s):** Completion of the WST and core GE. Upper division standing

**Pre/Corequisite(s):** 100w

**Grading:** Graded

*GEOG 112 - Nations, Cultures, and Territorial Disputes*

3 unit(s)

In a world with rapidly diminishing resources new conflicts are emerging based on factors such as ethnicity, economic opportunity, religion, and nationalism. Explore global circumstances leading to conflict. GE Area: V.

*Satisfies SJSU Studies V: Culture, Civil & Global Understanding.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOG 113 - Global Cities*

3 unit(s)

This course introduces various aspects of global cities, including debates over global cities, urban culture, new urban landscapes, and class/socio-economic disparity. The class includes case studies regarding global cities throughout the world that aim to explore the diversity and/or similarities of the global city formation process.

**Grading:** Graded

*GEOG 115 - Global Development*

3 unit(s)

Exploration of contemporary global economy using variety of analytical approaches developed by geographers. Provides geographic perspective on world economy and environmental issues within a spatial context.

**Prerequisite(s):** Upper division standing. GEOG 101 recommended.

**Grading:** Graded

*GEOG 117 - Advanced Economic Geography*

3 unit(s)

This is an advanced course in Economic Geography that explores the contemporary insights provided by geographers researching various dimensions of economy and space.

**Prerequisite(s):** Junior or Senior Standing

**Grading:** Graded

*GEOG 120 - Food Supply and Agricultural Systems*

3 unit(s)

Geography of world agriculture and nutritional needs of a growing world population. Comparison of traditional and modern agricultural systems in their use of resources and technologies. Effectiveness in meeting demands and sustainability.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 121 - Population and Global Change*

3 unit(s)

Impact of population changes on countries, regions, and their environments. Demographic comparisons of developed and developing societies from perspectives of land use, economics and politics.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GEOG 123 - Geography for K-12 Teachers*

3 unit(s)

Geography for future K-12 teachers. Topics include mapping, places, and regions, and themes of human, physical and historical geography. Overview of geography in the California K-12 Frameworks as well as the geography in the California teacher credential examinations.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 124 - Topics in Physical Geography*

3 unit(s)

Interactions between humans and environment from a geographical perspective.

**Prerequisite(s):** GEOG 1 or instructor consent.

**Grading:** Graded

*GEOG 125 - Selected Topics in Human Geography*

3 unit(s)

Changing topics in human geography.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GEOG 130 - Natural Resources*

3 unit(s)

Geography of economic, environmental, political and technological factors that define natural resources and affect their availability and use. Focus on water, food-producing and energy resources.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 132 - Creating Built Worlds*

3 unit(s)

Cross-cultural exploration of material expressions of culture. Analysis of production and consumption of places, shelters, and goods. Implications for design and policy.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GEOG 135 - Qualitative Methods in Geographical Research*

3 unit(s)

Development of skills required for geographical research and writing. Library research, oral presentations, variety of writing assignments dealing with diverse geographic problems.

**Prerequisite(s):** ENGL 2.

**Grading:** Graded

*GEOG 140 - The United States*

3 unit(s)

Geography of the U.S. emphasizing the continuing changes of America's places and regions. Themes include environmental, culture, economic, and social geographies at community, regional and national scales.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 145 - California*

3 unit(s)

Origins and patterns of California's diverse landscapes, including the geography of natural environments and resources, economic regions, land use, cultural patterns, political trends and the future.

**Grading:** Graded

*GEOG 150 - Central and South America and the Caribbean*

3 unit(s)

Geography of Mexico, Central America, Caribbean, and South America. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 155 - Europe*

3 unit(s)

Geography of Western and Central Europe. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities. Particular emphasis is given to the increasing economic and political unity through the European Union.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 160 - East and South Asia*

3 unit(s)

Geography of Eastern, Southeastern, and Southern Asia. Themes include environmental, historical, political, and economic geographies at the scales of the region, its countries, and selected cities. Particular emphasis is given to comparing and analyzing the variable rates of economic progress across the region.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 161 - City Life*

3 unit(s)

The city as a setting for diverse lifestyles. Challenges facing urban dwellers and adaptive strategies they take. Comparison of city, suburb and rural countryside as social environments.

**Prerequisite(s):** Upper Division or instructor consent

**Grading:** Graded

*GEOG 165 - National Parks*

3 unit(s)

An exploration of the history, philosophy, and science of park and wilderness preservation. Includes site visits to selected parks and wilderness areas.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*GEOG 168 - Sub-Saharan Africa*

*3 unit(s)*

Regional study of environments, as well as cultural, economic and political geography of Africa south of the Sahara. Special attention given to geographic factors in the progress of less developed countries.

**Grading:** Graded

*GEOG 170 - Introduction to Mapping and Geographic Information Systems*

*3 unit(s)*

Foundations of the mapping sciences and geographic information systems. Basics of earth measurement, location and mapping. Thematic map display and analysis. Application through a variety of laboratory experiences.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 1 or instructor consent.

**Grading:** Graded

*GEOG 171 - Advanced Geographic Information Systems*

*3 unit(s)*

Maps as tools of geographic expression and research. Introduction to spatial analysis through geographic information systems. Data collection and description; measuring absolute and relative location, patterns, interaction and association.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 1, GEOG 170 or instructor consent.

**Grading:** Graded

*GEOG 172 - Cartography: Compilation and Presentation*

*3 unit(s)*

Techniques of compilation, design, construction and production. Lab projects applying computer graphics and geographic information systems to the effective presentation of geographic themes and information.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 1 and GEOG 170 or instructor consent.

**Grading:** Graded

*GEOG 173 - Cartography: Dynamic and Interactive Mapping*

*3 unit(s)*

Design and implementation of dynamic and interactive presentations for visualizing geographic information. Lab projects creating animated and multimedia presentations. Designing user-interfaces for interactive mapping systems.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 170, GEOG 172 or instructor consent.  
**Grading:** Graded

*GEOG 175 - Geographic Information Systems: Project Development*

3 unit(s)

Creation of geographic information system databases and application software to solve specific problems in such areas as resource and facilities management, demographic analysis and planning.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 170 or instructor consent.  
**Grading:** Graded

*GEOG 178 - Geographic Information Systems Project*

3 unit(s)

Develop geographic database, web mapping, interactive mapping, and/or remote sensing solutions to a GIS problem. Identification of appropriate methods, and design, implementation, testing, and documentation of solution.

*Misc/Lab: Lecture 3 hours/lab 4 hours.*

**Prerequisite(s):** GEOG 170 and GEOG 171; 3 units from GEOG 173, GEOG 175, GEOG 181, or GEOG 182; or instructor consent.  
**Grading:** Graded

*GEOG 180 - Individual Studies*

1-4 unit(s)

Student-initiated in-depth study of a mutually agreeable topic conducted under faculty guidance.

**Prerequisite(s):** Supervisor and department chair approval.  
**Grading:** Credit/No Credit

*GEOG 181 - Remote Sensing: Basic Theory and Image Interpretation*

3 unit(s)

Acquisition, interpretation and applications of imagery obtained from both airborne and satellite platforms. Includes visual interpretation and analysis of airphotos and non-photographic images, such as radar and thermal infrared. Remotely-sensed imagery as a source for mapping and geographic information systems.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOG 170 or instructor consent.  
**Grading:** Graded

*GEOG 182 - Remote Sensing: Digital Analysis*

3 unit(s)

Digital image systems and application to earth resource problems. Emphasis on non-photographic sensors, including digital manipulation and image enhancement. Integration of digital imagery with geographic information systems.

*Misc/Lab: Lecture 2 hours/lab 3 hours/field trips.*

**Prerequisite(s):** GEOG 170 or instructor consent.

**Grading:** Graded

*GEOG 186 - Field Study in Physical Geography*

*3 unit(s)*

Field research methods in physical geography, including biogeography, hydrology, soils, geomorphology, and human-environment studies. Mapping, GPS, landscape remote sensing, and field measurements. Local field trips and projects tailored to class interests.

**Prerequisite(s):** 6 units of upper division geography courses.

**Grading:** Credit/No Credit

*GEOG 187 - Field Study in Human and Historical Geography*

*3 unit(s)*

Introduction to field methods in human and historical geography. Field trips, archival research, and student projects provide practical and applied skills and an informed view of the relationships between people and their environments.

**Prerequisite(s):** 6 units of upper division geography courses.

**Grading:** Credit/No Credit

*GEOG 192 - Int'l Program Studies*

*1-6 unit(s)*

**Grading:** Mixed Grading

*GEOG 195 - Spatial Analysis*

*3 unit(s)*

Quantitative analysis of geographic information, including spatial statistics and analytical mapping; application of descriptive and inferential statistics to geographic problems.

**Prerequisite(s):** GEOG 170 and GEOG 171 or instructor consent.

**Grading:** Graded

*GEOG 197 - Geography Internship*

*1-6 unit(s)*

Work/activity with professional application in off-campus establishment or agency. Course requirements and units determined in consultation with faculty advisor and work/activity supervisor.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** 12 units of geography.

**Grading:** Credit/No Credit

*GEOG 199 - Senior Seminar*

3 unit(s)

Capstone course examining the history of geographic thought and themes with emphasis on critical assessment of issues affecting current trends; objective of placing undergraduate experience in a professional context.

**Prerequisite(s):** Senior standing in geography.

**Grading:** Credit/No Credit

*GEOG 210 - Geographic Thought and Theory*

3 unit(s)

Critical inquiry into the historical and philosophical development of modern geographical concepts and theories.

**Grading:** Graded

*GEOG 239 - Geographic Information Technology*

3 unit(s)

Research in application of technology to the design and implementation of computer mapping, remote sensing, and geographic information systems. Includes spatial database design issues, spatial processing algorithms, and cartographic visualization. Research project and paper. May be repeated for credit when offered as a different technology.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOG 240 - Qualitative Research Methods*

3 unit(s)

Rigorous analysis of methods used by social scientists in assessing notions of human and physical geography. Application of determined qualitative techniques including participant observation, semi-structured interviews, focus groups, participatory action, oral histories, textual analysis, social survey. Project development and evaluation.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate level or instructor permission

**Grading:** Graded

*GEOG 279 - Geographic Information Science Applications*

3 unit(s)

Research in applications of geographic information science in such areas as urban spatial analysis, environmental analysis, geo-demographic analysis, regional analysis, facilities management, and geographic education. Research project and paper. May be repeated for credit when offered as a different technology.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded



*GEOG 282 - Advanced Geographic Techniques*

3 unit(s)

Specific topics in display and analysis of geographic information. Possible topics include advanced spatial analysis, cartographic representation, user-interface design, internet map server technology. May be repeated for credit when offered as a different technique.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** GEOG 170 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOG 286 - Geographic Information Systems: Project Management*

3 unit(s)

Principles of project management applied to geographic information systems projects. Requirements assessment, estimating, scheduling, system design, and acceptance testing. Students will negotiate, plan and execute projects for outside agencies. May be repeated when course content changes

**Prerequisite(s):** GEOG 175 or instructor consent.

**Grading:** Graded

*GEOG 290 - Seminar in Research Design for Geographic Information Science*

3 unit(s)

Introduction to research in geographic information science. Includes definition of research problems, design of research project, identification of appropriate methodologies for acquiring, organizing and analyzing data, and presentation of research results. Research paper.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*GEOG 298 - Special Study*

1-4 unit(s)

Advanced individual research and projects unavailable in other department offerings conducted under the supervision of a faculty member.

**Prerequisite(s):** Approval of supervising faculty member and department chair.

**Grading:** Mandatory CR/NC/RP

*GEOG 299 - Master's Thesis or Project*

1-6 unit(s)

**Prerequisite(s):** Approved master's degree candidate.

**Grading:** Mandatory CR/NC/RP

*URBP 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*URBP 101 - The City*

3 unit(s)

History and organization of the city, emphasizing contemporary issues and strategies for influencing urban policy. GE Area: S.

*Satisfies SJSU Studies S: Self, Society & Equality in US.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*URBP 102 - Introductory Community Planning and Development Studio*

4 unit(s)

This course introduces students to the tools and techniques of working directly with diverse local communities to develop priorities and recommendations for improving neighborhood quality of life. Students learn about collaborative planning techniques via lectures, comparative studies, and group discussion.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*URBP 103 - Local Government and Politics*

4 unit(s)

Offers a theoretical and practical study of local politics and government. The structure, role, and functions of city and county governments are examined. Students gain knowledge of the resources and skills required for effective citizenship in their communities.

**Grading:** Graded

*URBP 107 - Introduction to Real Estate Development Business and Planning*

3 unit(s)

This course will introduce students to the business of real estate development and how the field of urban planning intersects with the development process. Topics addressed include development approval feasibility, land use regulation reform, and development during business cycles.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*URBP 110 - Urbanization in the Global South*

3 unit(s)

This course explores issues and debates that relate to urbanization in the developing world. Students will gain a general understanding of the concept of urbanization in the developing world, and what are some of the issues,

challenges, and policy responses found in these urban environments.

**Prerequisite(s):** Completion of the WST and core GE. Upper division standing

**Pre/Corequisite(s):** 100w

**Grading:** Graded

*URBP 120 - Intro to Housing Economics and Policy*

*4 unit(s)*

Historic and policy aspects of housing, focusing on housing characteristics and public sector intervention. Topics may vary. Course may be repeated for credit when topic changes.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*URBP 125 - Urban Anthropology*

*3 unit(s)*

Anthropological theories and methods in analyzing the global effects of urban growth. Relevance of anthropological approach in understanding our local multiethnic metropolitan area.

**Prerequisite(s):** ANTH 11 or instructor consent.

**Grading:** Graded

*URBP 132 - Creating Built Worlds*

*3 unit(s)*

Cross-cultural exploration of material expressions of culture. Analysis of production and consumption of places, shelters, and goods. Implications for design and policy.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*URBP 133 - Introduction to Social Issues in Planning*

*4 unit(s)*

Contemporary social issues related to urban and regional planning. Assessment of community social needs and resident planning. Focus on ethnic areas such as African, Asian and Mexican American neighborhoods.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 136 - Intro to Land Use and Urban Planning*

*4 unit(s)*

Land use and facilities planning practices in the context of American cities, emphasizing interrelationships between various land uses and public facilities and service requirements. Study of the role of public law in addressing urban growth and environmental change issues.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 142 - Introduction to Environmental Planning*

*4 unit(s)*

Environmental sustainability and its application to local planning. Review of regulatory tools and legislation that underlie most environmental planning and current environmental planning topics. Course may be repeated for credit when topic changes.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 143 - Intro Private Development and Planning*

*3 unit(s)*

Introduction to the real estate development process from preliminary product analysis through planning, construction, and marketing.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 145 - Urban Policy and Its Impact on Inner City Residents*

*4 unit(s)*

Effects of public policy decisions on inner city populations. Implications of urban planning processes for differential consumption costs of public goods and services.

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*URBP 148 - Intro Spatial Vis Tech in Urb Plan*

*1-4 unit(s)*

Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 150 - Introduction to Municipal Finance*

*4 unit(s)*

An introduction to the theory and practice of municipal finance. Topics include public goals and externalities, the function of the budget, sources of revenues, finance tools, expenditure types, the planning programming-budgetary system (PPBS), and methods of project evaluation.

**Prerequisite(s):** Upper Division Standing

**Grading:** Graded

*URBP 151 - Introduction to Urban Design*

4 unit(s)

Principles, goals and methods of the urban design process. Urban design as the comprehensive treatment of the human-made environment.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 152 - Introduction to Urban Design Studio*

4 unit(s)

Introduction to the analysis of alternative urban design policies to direct urban form development. Course may be repeated for credit when topic changes.

*Misc/lab: Activity 6 hours.*

**Prerequisite(s):** URBP 151 or instructor consent.

**Grading:** Graded

*URBP 156 - Introduction to Local Transportation Planning*

4 unit(s)

Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*URBP 160 - Topics in Environmental Planning*

4 unit(s)

In-depth examination of selected topics specifically related to environmental planning. Consult department for current offerings. Course may be repeated for credit when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing or instructor consent

**Grading:** Graded

*URBP 163 - Twentieth Century Urban Design*

3 unit(s)

History of urban design since 1900, covering theories and practices of urban design in the industrialized world; includes Camillo Sitte, Le Corbusier and Frank Lloyd Wright.

**Prerequisite(s):** ARTH 70B or URBP 151 or instructor consent.

**Grading:** Graded

*URBP 169 - Introduction to Social Media in Planning*

1-4 unit(s)

An introduction to social media tools and their use in urban planning, with a particular emphasis on public participation.

**Prerequisite(s):** Upper division standing  
**Grading:** Graded

*URBP 175 - Urban Studies Topics*

1-4 unit(s)

In depth examination of selected topics. Consult schedule of classes for current offerings. Course may be repeatable for credit with different topic.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*URBP 178 - Intro to Regional Transport Planning*

4 unit(s)

Principles and concepts relevant to transportation planning and policy at the regional level, such as historical and current regional transportation planning processes, the relationship between regional travel demand and transportation infrastructure, and travel demand modeling practices.

**Prerequisite(s):** Upper division standing  
**Grading:** Graded

*URBP 179A - Fundamentals of GIS for Urban Planning*

4 unit(s)

Exploration of Geographic Information Systems (GIS) area analysis techniques for spatial information management in local government: planning support systems, needs analysis, envisioning neighborhoods utilizing multiple maps, charts, photos and the Internet. Course may be repeated for credit when topic changes.

**Prerequisite(s):** Upper division standing or instructor consent.  
**Grading:** Graded

*URBP 179B - Advanced GIS for Urban Planning*

4 unit(s)

Continued study of how geographic information systems (GIS) can be applied to urban and regional planning topics.

**Prerequisite(s):** URBP 179A or instructor consent.  
**Grading:** Graded

*URBP 180 - Individual Studies*

1-4 unit(s)

Individual work on special topics by arrangement.

**Prerequisite(s):** Instructor consent and department chair approval.  
**Grading:** Credit/No Credit

*URBP 185 - Environmental Impact Analysis*

4 unit(s)

Current environmental impact reports subjected to critical review; determination of alternative procedures and mitigating opportunities; extensive field analysis and practice.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 1, ENVS 124 or instructor consent.

**Grading:** Graded

*URBP 190 - Advanced Environmental Impact Assessment*

4 unit(s)

Advanced work in the field of environmental impact assessment. Analysis of EIA documents for regulatory adequacy, consistency with local planning documents and technical accuracy.

*Misc/Lab: Lecture 3 hours/lab 2 hours.*

**Prerequisite(s):** ENVS 185 or instructor consent.

**Grading:** Graded

*URBP 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*URBP 200 - Seminar on Urban and Regional Planning*

4 unit(s)

Overview of the historical development of urban and regional planning in the United States, as well as prominent theories of urban planning practice. Emphasizing the connection between the theoretical and historical material and current planning practice.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*URBP 203 - Collaborative Neighborhood Planning*

4 unit(s)

Through fieldwork and laboratory assignments, the student applies community-based participatory planning methods to develop recommendations for improving neighborhood quality of life through planning and design.

**Prerequisite(s):** URBP 295 or instructor consent.

**Grading:** Graded

*URBP 204 - Quantitative Methods*

4 unit(s)

Urban research design, measurement, selected statistical research tools and introduction to computer processing. Extensive treatment of survey research.

**Grading:** Graded

*URBP 205 - Private Development and Urban Planning*

3 unit(s)

Study of the entire process of private development from preliminary product analysis through planning, construction and marketing.

**Grading:** Graded

*URBP 206 - Market Analysis, Appraisal, & Finance of Real Estate Development*

3 unit(s)

Students will be taught the real estate capital markets and the mix of the necessary financing sources required of developments. Students will evaluate criteria used by developers, real estate lenders and capital providers looking to minimize risk and maximize returns on real estate investments.

**Grading:** Graded

*URBP 207 - Real Estate Development Business and Planning*

3 unit(s)

This course will introduce students to the California planning system, real estate development entitlement process, and contemporary issues in urban and regional planning.

**Grading:** Graded

*URBP 208 - Urban Real Estate Development Studio*

3 unit(s)

This is a capstone studio course designed to immerse students in the real world of urban property development. Students will explore this world by taking part in a major mock-development project of an actual site in the San Francisco Bay Area.

**Prerequisite(s):** URBP 205, URBP 206 and URBP 207, or instructor consent

**Grading:** Graded

*URBP 211 - Regional Analysis and Planning*

4 unit(s)

Students learn the major concepts and techniques of regional analysis and apply these to assess and solve current planning problems.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*URBP 214 - Introduction to Public Management*

3 unit(s)

A study of current principles and practices of effectively managing public service organizations. Emphasis on critical thinking, project management, and implementation processes.



**Prerequisite(s):** Statistics.

**Grading:** Graded

*URBP 223 - Housing Economics and Policy*

*4 unit(s)*

Overview of the housing situation in the United States; examination of the theory of housing markets and framework for analyzing housing policies; in-depth study of the problem of affordable housing and critical examination of the steps that the public, private, and non-profit sectors have taken to alleviate the problem.

**Grading:** Graded

*URBP 225 - Land Use Planning and Law*

*4 unit(s)*

Study of contemporary growth and land use management techniques used by local, state and federal governments. Examination of the role of public law in addressing urban growth and environmental change issues, and the legal aspects of preparing and administering planning controls and incentives.

**Grading:** Graded

*URBP 226 - Regional Transportation Planning*

*4 unit(s)*

Overview of the evolution of key transportation institutions and policies at the metropolitan, state, and federal levels. Assessment of the current challenges facing regional transportation systems and evaluation of different planning and policy approaches proposed to improve the performance of regional transportation systems.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*URBP 228 - Urban Community Development*

*4 unit(s)*

The role, objectives and policies of the urban community development process; the social, economic, political and physical implications underlying community development programs; and relationships of these programs to comprehensive urban planning.

**Grading:** Graded

*URBP 231 - Urban Design in Planning*

*4 unit(s)*

Urban design as part of the planning process; contemporary and historic urban design thought and ways of improving design quality in the urban environment.

**Grading:** Graded

*URBP 232 - Urban Design Studio*

4 unit(s)

Through fieldwork and laboratory assignments, the student applies urban design theories, methods and principles to a current urban development issue.

**Prerequisite(s):** URBP 231 or instructor consent.

**Grading:** Graded

*URBP 233 - Social Issues in Planning*

4 unit(s)

Multi-disciplinary study of the principles that guide the growth of a community so all members have equal access to the benefits of living in an urban environment. The course examines the coordination of citizen groups and government bodies to secure needed social services and facilities, champion initiatives that improve quality of life in our community, and engage issues important to underrepresented groups.

**Grading:** Graded

*URBP 234 - Field Study Seminar*

1 unit(s)

Discussion and analysis of experience in the planning field under internship programs. May not be counted towards the Master of Urban Planning program of study. Repeatable for credit with approval of the Graduate Student Advisor.

**Prerequisite(s):** Instructor consent and enrollment in the Master of Urban Planning degree program.

**Grading:** Graded

*URBP 236 - Urban and Regional Planning Policy Analysis: Tools and Methods*

4 unit(s)

Analytical approaches to explain and evaluate the public policy making process with particular reference to urban and regional planning and development. Apply quantitative methods such as extrapolation techniques, population and economic projection models, and spatial interaction models for policy analysis.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*URBP 240 - Environmental Planning*

4 unit(s)

Examination of the fundamental concepts and issues related to urban environment that planners face. Focus on land use and open space planning, planning and use of urban resources, interactions of urban residents and the physical environment, and the role of government in formulating appropriate policies and strategies.

**Grading:** Graded

*URBP 241 - Planning Sustainable Cities*

2 unit(s)

An overview of urban sustainability covering topics such as the origins of urban sustainability, tools for sustainability

planning, global dimensions of sustainability (including different approaches to planning across world regions), and visions for creating sustainable futures.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*URBP 248 - Spatial Visualization Tech in Urb Plan*

*1-4 unit(s)*

Lab-based course in digital visualization for urban spatial representation using industry standard software such as Adobe Photoshop, Adobe Illustrator and Trimble Sketch-Up.

**Grading:** Graded

*URBP 250 - Urban Planning Public Finance*

*4 unit(s)*

An investigation of both the theory and practice of local public finance with emphasis on applications relevant to urban and regional planning. Topics include: public goals and externalities; the function of the budget; sources of revenue and expenditure; the planning programming-budgetary system (PPBS); methods of project evaluation; and traditional as well as innovative methods of public finance including property tax, user fee, impact fee, tax increment financing and use of special districts.

**Grading:** Graded

*URBP 255 - Urban and Regional Growth Management*

*4 unit(s)*

Extensive study of causes, consequences and costs of sprawl; study of growth management and smart growth programs at the state, regional and local level, including the rationale, techniques, and economic, political, and organizational implications.

**Grading:** Graded

*URBP 256 - Sustainable Transportation Planning*

*4 unit(s)*

Examination of transportation planning issues addressed at the neighborhood and municipal level such as bicycle and pedestrian planning, traffic calming, and parking policy, with a focus on promoting sustainable communities.

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*URBP 260 - Environmental Planning Topics*

*4 unit(s)*

In-depth examination of selected topics specifically related to environmental planning. Consult department for current offerings. Course may be repeated for credit when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*URBP 275 - Urban Planning Topics*

1-4 unit(s)

In-depth examination of selected topics introduced in the core seminars for the Master of Urban Planning degree. Consult schedule of classes for current offerings. Course may be repeated for credit when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*URBP 275G - Geographic Information Systems Overview: Urban Planning Applications*

1 unit(s)

An overview of Geographic Information Systems with a focus on applications to urban planning, including demographic data analysis, land use mapping, cartographic techniques and methods for determining the most appropriate display of quantitative data for a variety of intended audiences.

**Grading:** Graded

*URBP 276 - Social Media in Planning*

1-4 unit(s)

An overview of social media tools and their use in urban planning, with a particular emphasis on public participation.

**Grading:** Graded

*URBP 278 - Introduction to GIS for Urban Planning*

4 unit(s)

Examination of geographic information systems (GIS) applications to urban and regional planning topics. Course may be repeated for credit when topic changes.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*URBP 279 - Advanced GIS for Urban Planning*

4 unit(s)

Further examination of advanced geographic information systems (GIS) applications to urban and regional planning topics

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** URBP 278 or instructor consent.

**Grading:** Graded

*URBP 280 - Planning Research Topics*

1-4 unit(s)

In-depth examination of selected planning research topics introduced in core seminars for the Master of Urban Planning degree, such as the social and environmental impacts of planning policies.

*Course may be repeated for credit for up to 12 units.*

**Grading:** Graded

*URBP 292 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*URBP 295 - Capstone Studio: Community Planning*

6 unit(s)

Through fieldwork and laboratory assignments, the student applies theories and techniques of analysis to identify the assets, problems, and opportunities of an urban community.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*URBP 297P - Planning Report Preliminary Proposal*

1 unit(s)

Advanced research and proposal writing. Students conduct background research and develop a preliminary research proposal that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

**Grading:** Graded

*URBP 298A - Special Study: Planning Report*

3 unit(s)

Advanced research and report writing. Students develop a plan and complete the initial research to write a planning report that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

**Prerequisite(s):** Graduate Adviser approval. Passage of URBP 297P with a grade of B or better.

**Grading:** Mandatory CR/NC/RP

*URBP 298B - Special Study: Planning Report Completion*

3 unit(s)

Advanced individual research and report writing. Students work with a faculty advisor to complete a professional planning report that demonstrates their capacity to do independent research, analysis, and writing about a complex planning problem.

**Prerequisite(s):** Passage of URBP 298A and Graduate Student Advisor approval.

**Grading:** Mandatory CR/NC/RP

# College of Science

- Overview
- Advising Center
- Special Centers
- Teaching Credential Programs
- Data Science MS Program
- Medical Product Development Management MS Program
- Nuclear Science Program

**Office:** Science 127

**Telephone:** 408-924-4800

**Website:** [www.sjsu.edu/science](http://www.sjsu.edu/science)

## Overview

San José is at the center of Silicon Valley, known worldwide for its research institutes and industries that set the standard for scientific and technological innovation. San José State is the metropolitan university of the region, and the academic programs of the College of Science prepare students for rewarding careers through our bachelor's and master's level degree programs in the biological sciences, physical sciences, mathematics and computer science fields. Our departments have established partnerships with local employers where students find training and employment opportunities.

The College of Science provides the lower division core biology, chemistry, mathematics and physics courses supporting majors in other technical disciplines (such as engineering). As part of the university general education requirements, we offer courses in quantitative reasoning, the physical universe and its life forms, and earth and the environment. Furthermore, we teach the discipline-specific courses for the science and mathematics teacher credential programs.

Successful science students come from many backgrounds. Some enter the university immediately upon graduation from high school. Others, who have worked or have various life experiences, enroll as either full or part-time students in order to continue their education and better their career opportunities. The maturity, laboratory skills and experience of these students enrich our programs. We have several programs to increase the participation of women and underrepresented students in professional level science. Our College of Science Advising Center (COSAC) is available to assist students with their academic advising questions as well as to provide tutoring for key science and math courses.

There are active student clubs associated with each major, several of which have won national recognition for their professional and community service activities. Club members provide mutual support and are able to network with professionals in their field. A list of programs and courses can be found on each department page in the catalog.

- Department of Biological Sciences
- Department of Chemistry
- Department of Computer Science
- Department of Geology

- Department of Mathematics and Statistics
- Department of Physics and Astronomy
- Moss Landing Marine Laboratories
- Science Education Program

## College of Science Advising Center (COSAC)

**Office:** Located in Duncan Hall (DH) 213

**Telephone:** 408-924-5193

**Email:** [cosac@science.sjsu.edu](mailto:cosac@science.sjsu.edu)

**Website:** [www.sjsu.edu/cosac](http://www.sjsu.edu/cosac)

## Special Centers

The College of Science has several unique interdisciplinary instructional research centers and programs: the Biotechnology Education and Research Institute (BERI), the Master of BioTechnology (MBT), the Medical Product Development Management (MS), the Clinical Lab Scientist Certificate Program, the Center for Applied Mathematics, Computation and Statistics, the Institute for Modern Optics, the Materials Characterization and Metrology Center, the Flow Cytometry Core Facility, the W.M. Keck Facility for Chemical Research, the laboratory for Conservation Genetics, the Moss Landing Marine Laboratories, and the Nuclear Science Facility. Partially funded by external grants and contracts, these centers provide our students opportunities to participate in sponsored research projects. Cooperative programs with local industries and government laboratories are additional sources of professional experience and financial support for our science majors.

## Teaching Credential Programs

Two single subject credential programs are coordinated by the College of Science, in collaboration with the Connie L. Lurie College of Education. The single subject professional programs are designed for individuals who are interested in teaching science or mathematics in middle schools or high schools. The Science Education Program offers single subject credential programs in biology, chemistry, earth science and physics. The Department of Mathematics and Statistics offers a mathematics single subject credential program. For detailed information, contact the appropriate program coordinator.

Through the Science Education Program, the College of Science supports the Science Education Resource Center, which provides hands-on science materials, textbooks, reference materials and technical assistance to pre-service and in-service teachers.

## Data Science, MS

**Website:** [www.sjsu.edu/science/special-programs/ms-data-science](http://www.sjsu.edu/science/special-programs/ms-data-science)

### Professors

Martina Bremer (Statistics)

Teng Moh, Program Coordinator (Computer Science)

Chris Pollett (Computer Science)

Wasin So (Mathematics)  
Mark Stamp (Computer Science)

### **Assistant Professors**

Guangliang Chen (Statistics)  
Cristina Tortora (Statistics)

## **Overview**

The Department of Computer Science and the Department of Mathematics and Statistics have combined their existing talents and resources to offer a MS in Data Science. This degree is designed for students with an undergraduate degree in the sciences or engineering, and it provides both mathematical and algorithmic foundational knowledge and practical programming skills for data science careers. Upon completion of this program, students will be able to:

- Design and implement complete solutions using massive amounts of data based on artificial-intelligence, machine-learning, or statistical-analysis methods.
- Design and implement new methods to capture and analyze massive amounts of data.
- Use and improve existing tools for capturing and analyzing massive amounts of data.

This degree assists those with a baccalaureate degree in the sciences or engineering to pursue a data science career by providing them with a rigorous and affordable education in mathematics, statistics, computer science and machine learning. Graduates will appeal to a number of data-based careers including but not limited to data scientist, data analyst, data mining specialist, machine learning engineer, and data and analytics manager.

## **Medical Product Development Management, MS**

**Office:** Duncan Hall (DH), Room 452

**Telephone:** 408-924-4853

**Website:** [www.medproddev.sjsu.edu](http://www.medproddev.sjsu.edu)

**Email:** [tonja.green@sjsu.edu](mailto:tonja.green@sjsu.edu)

### **Professors**

Sulekha Anand, Statistics  
Tonja Green, Director, Clinical Development  
Sami Khuri, Bioinformatics  
Arvinder Loomba, PMP, Business Management  
Sheldon Mullins, Biopharmaceutical Regulatory Affairs  
Candace Elek, Clinical Development  
Sowmya Arunkumar, James Kelly, Device & Diagnostics Regulatory Affairs  
Kunal Sampat, Medical Device & Diagnostics Clinical Trials  
Vivan Tran, Pharmacovigilance & Drug Safety

## **Overview**

The Masters of Science degree in Medical Product Development Management (MPDM) is offered by SJSU's College of Science, in collaboration with the College of College of Professional Global Education and the Lucas Graduate



School of Business. The MPDM MS program combines clinical research, regulatory affairs, bioinformatics and customized technical classes with MBA-level business and management courses. The industry-relevant curriculum was designed in collaboration with experts from biomedical companies in the greater San Francisco Bay area to prepare students for careers in the biopharmaceutical, medical devices and in-vitro diagnostics industries. To accommodate students who work full-time, courses are offered during evenings or weekends, and several classes are offered online for scheduling flexibility.

## Nuclear Science Program

**Office:** Duncan Hall (DH), Room 180

**Telephone:** 408-924-4954

### Professors

Victor Maraschino, Radiation Safety Officer

## Overview

The Nuclear Science Facility of San José State University is the unique focus of all related teaching and research activity on campus.

Undergraduate students have an opportunity to work in the facility as part of their general education classes in chemistry and physics. Students majoring in chemistry, physics, and biology come to the facility for some of their classes or for undergraduate research projects. The Department of Physics and Astronomy offers its major with a concentration in Nuclear Science. Consult the department listings for degree requirements and course descriptions.

SJSU also offers MS degrees in Chemistry and Physics. The course of study could emphasize nuclear chemistry or nuclear physics depending on the student's particular interest. Consult the chemistry or physics listings respectively for degree requirements and course descriptions.

## Resources

The university's Nuclear Science Facility is a unique physical plant specifically designed and built for classroom, laboratory and research work in nuclear science and technology. The Nuclear Science Facility is a freestanding 10,000 square foot, three-story building contiguous to the university's other science and classroom facilities. It is comprised of a briefing room, administrative and faculty offices, four undergraduate wet labs, two undergraduate counting rooms, five graduate wet labs, a high activity storage room, plant and animal experiment rooms, a waste water collection and sampling system, an ambient air sampling system and storerooms. The facility is staffed full-time by a director, an office manager, senior technologists and a radiation safety officer.

The reference library within the facility is comprised of approximately 300 volumes of standard science reference works and texts covering basic and advanced nuclear physics science and technology, radiobiology, health physics and standards and procedures. This collection supplements the university library, comprised of 900,000 volumes and more than 2,100 science and engineering periodicals.

## Research

Research in the Nuclear Science Facility is sponsored through grants from DOE, NASA, NSF, and others. Most research is done in collaboration with other universities and national laboratories.

## Master

### Data Science, MS

- Admissions Requirements
- Advancement to Candidacy
- Requirements for Graduation
- Master's Requirements (36 units)
- Program Learning Outcomes

The Master of Science in Data Science program (*pending final approval from the CSU Chancellor's Office*), offered by the College of Science, provides students with a Bachelor's degree in the sciences or engineering with foundational knowledge, experience, and skills that are crucial for a data science career. It features a multidisciplinary curriculum in applied math, statistics, computer science, and their intersection - machine learning. Its rigorous, balanced coursework provides students with strong mathematical, computing, and data skills, as well as project experience. Graduates of this program will have the necessary theoretical knowledge, practical data analysis and coding skills for solving complex real-world problems based on massive amounts of data and also meet the qualifications for various data scientist positions in industry and government.

### Program Learning Outcomes (PLOs)

Students will be able to:

1. Apply computer science knowledge and tools to assist in performing data science tasks.
2. Summarize and evaluate statistical and machine learning concepts, models, and techniques.
3. Integrate multidisciplinary knowledge and software to tackle challenging, complex data science tasks.
4. Communicate effectively, both orally and in writing, data science concepts, algorithms, and results to a broad audience.
5. Identify ways in which data scientists can contribute to the cultural and economic well-being of diverse societies in local, national, and global scopes.

## Admission Requirements

Candidates must meet all of the university admission requirements. Students can be admitted in either classified or conditionally classified standing.

To be admitted to classified standing, applicants must have earned a Bachelor's degree in the sciences or engineering from a regionally accredited institution with a minimum GPA of 3.0 (based on a 4.0 scale), and have completed all program prerequisites listed below. Two to three letters of recommendation are also required. The GRE General Test score must also be submitted along with the packet. There is no minimum requirement, but the GRE score will be used to compare and rank applicants. To enter this program with classified standing, a student must have passed the following prerequisites courses (with the listed required grades in some cases):

1. A multivariable calculus course (e.g., MATH 32 at SJSU), with a grade of B or better.
2. A linear algebra course (e.g., MATH 39 at SJSU), with a grade of B or better.
3. A calculus-based upper-division statistics course (e.g., MATH 161A at SJSU), with a grade of B or better.
4. A data structures and algorithms course (e.g., CS 146 at SJSU), with a grade of B or better.
5. A probability theory course (e.g., MATH 163 at SJSU).
6. An advanced course in object-oriented programming (e.g., CS 151 or CMPE 135 at SJSU) or two semesters of statistical programming coursework, such as the following at SJSU:

1. MATH 167R - Statistical Programming with R
2. MATH 167PS - Introduction to Python Programming and SQL

Applicants from countries in which the native language is not English must submit TOEFL scores. Minimum TOEFL scores acceptable for admission are 600 (Paper-based), 250 (Computer-based), or 100 (Internet-based).

## Advancement to Candidacy

Students may advance to candidacy after completing all admission conditions and all prerequisites for the culminating experience including the Graduation Writing Assessment Requirement (GWAR).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

#### Master's Requirements (36 units)

##### Core Courses (27 units)

- CS 156 - Introduction to Artificial Intelligence 3 *unit(s)*
- CS 157A - Introduction to Database Management Systems 3 *unit(s)*
- CS 200W - Graduate Technical Writing 3 *unit(s)*
- CS 274 - Topics in Web Intelligence 3 *unit(s)*
- MATH 164 - Mathematical Statistics 3 *unit(s)*
- MATH 261A - Regression Theory and Methods 3 *unit(s)*
- MATH 250 - Mathematical Methods for Data Visualization 3 *unit(s)*
- MATH 252 - Cluster Analysis 3 *unit(s)*
- MATH 251 - Statistical and Machine Learning Classification 3 *unit(s)*  
or CS 271 - Topics in Machine Learning 3 *unit(s)*

##### Elective Course (3 units)

The elective can be selected from the list of courses offered in the Department of Computer Science and Department of Mathematics and Statistics and requires approval from the program coordinator.

Overall, students must take at least 4 MATH courses and 4 CS courses, not counting the writing course (CS 200W) and the project/thesis courses (CS 297/MATH 297A, CS 298/MATH 298).

##### Culminating Experience (6 units)

Both plans require two semesters of enrollment in 6-unit coursework in order to conduct the proposed project or thesis study. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as his or her advisor. The student must also secure the commitments of two additional

members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's committee. Topics and committee selections must be approved by the MS Data Science Coordinator. Either plan requires writing a manuscript in a formal format describing original data science research, which is submitted for review by the student's committee. In addition, the student must successfully pass a comprehensive oral examination by the student's committee based on the conducted project or thesis study.

### Plan A (Thesis)

- MATH 297A - Preparation for Writing Project, Research Project or Thesis 3 *unit(s)* or
- CS 297 - Preparation for Writing Project or Thesis 3 *unit(s)*  
and
- CS 299 - Master's Thesis 3 *unit(s)* or
- MATH 299 - Master's Thesis 1-4 *unit(s)*

### Plan B (Project)

- MATH 297A - Preparation for Writing Project, Research Project or Thesis 3 *unit(s)* or
- CS 297 - Preparation for Writing Project or Thesis 3 *unit(s)*  
and
- CS 298 - Master's Writing Project 3 *unit(s)* or
- MATH 298 - Special Study 1-4 *unit(s)*

### Total Units Required (36 units)

Students who enter the program having already completed courses equivalent in level and content to any of those required for the degree may be allowed to substitute an appropriate alternative course upon advanced approval by the MS Data Science Coordinator. The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 9.

## Medical Product Development Management, MS

### Overview

The Masters of Science degree in Medical Product Development Management (MPDM) is offered by SJSU's College of Science, in collaboration with the College of Professional and Global Education and the Lucas Graduate School of Business. The MPDM MS program combines clinical research, regulatory affairs, bioinformatics and customized technical classes with MBA-level business and management courses. The industry-relevant curriculum was designed in collaboration with experts from biomedical companies in the greater San Francisco Bay area to prepare students for careers in the biopharmaceutical, medical devices and in-vitro diagnostics industries. To accommodate students who work full-time, courses are offered during evenings or weekends, and several classes are offered online for scheduling flexibility.

Students in the Master of Science in Medical Product Development Management degree program develop proficiency in applying leadership, management and decisionmaking skills in a regulated environment; understanding and conversing with others in a multi-disciplinary field; and understanding ethical, business, financial, global, and strategic implications in medical product development. The MPDM program prepares students to enrich their communities as ethical and socially responsible graduates in a field in which the highest levels of integrity are a fundamental necessity.

Please refer to the program website for more information [www.medproddev.sjsu.edu](http://www.medproddev.sjsu.edu).

## Requirements for Admission to Classified Standing

Applying for graduate school at San José State University is a two-step process. Apply to the university through Cal State Apply to obtain approval for university-level admission, and to the department to obtain admission into the MS, Medical Product Development Management program. Please visit the admission requirements page for more information. Applicants may come from a wide variety of undergraduate (or postgraduate) areas of study including but not limited to nursing, pre-med, biology, chemistry, mathematics, science education, pharmacy, engineering, business, computer science, psychology, social sciences, and pre-law.

To be accepted into the program in classified standing, an applicant must:

1. Meet all University requirements.
2. Hold a baccalaureate degree from an accredited four-year college or university.
3. Have a grade point average (GPA) of at least 2.5 (3.0 or above preferred) in the last 60 semester or 90 quarter units of coursework.
4. Satisfactory completion of a 3-unit undergraduate course in introductory statistics and probability from an accredited college or university is recommended.
5. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE.

*Applicants should note that a high degree of proficiency in both written and oral communications in English is a fundamental skill required both to complete the degree program and for success in the field.*

**The program does not accept students in conditionally classified standing.**

## Requirements for Advancement to Candidacy

Students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the master's degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. The program GWAR course is SMPD 281A. Requirements for advancing to candidacy in the MS, Medical Product Development Management are successful completion of SMPD 281A and 9 units of overall program credits.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Program Graduation Requirements

The general requirements for the course completion as outlined below.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*SMPD 281A will satisfy the graduation writing requirement for MPDM.*

## Culminating Experience

### Plan B (Project)

The culminating project challenges the student to demonstrate leadership, teamwork and decision-making skills. The student will write or prepare a publication-worthy paper or presentation for a biomedical professional journal, conference or event. The paper or presentation must demonstrate depth of knowledge of the processes, methods, and procedures used in clinical research and development or in the management of medical product development on a topic selected by the student (with advisor approval).

This degree is listed with the College of Science.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow the special session fees and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or the program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

## Master's Requirements (35 units)

- SMPD 283A - Regulatory Affairs I, Biopharmaceutical 3 *unit(s)*
- SMPD 283B - Regulatory Affairs II Device-Diagnostics 3 *unit(s)*
- SMPD 286 - Statistical Methods in Clinical Trials 3 *unit(s)*
- SMPD 287 - Informatics in Drug and Device Development 3 *unit(s)*

## Management Courses (12 units)

- BUS 210 - Developing and Managing People 3 *unit(s)* (GWAR)
- BUS 284C - Managing Medical Product Development 3 *unit(s)*
- BUS 286 - Project Management 3 *unit(s)*

### Choose one course (3 units):

- SMPD 202T - MPDM Seminars: Biomedical Business 3 *unit(s)*
- BUS 250 - Law and Ethics 3 *unit(s)*

## Core Courses (11 units)

### Clinical Development (6 units)

- SMPD 281A - Clinical Development Seminar I 3 *unit(s)* (GWAR)
- SMPD 285 - MPDM Research / Practicum 1 *unit(s)*
- SMPD 281B - Clinical Development Seminar II 2 *unit(s)*

### Clinical Trials (2 units)

- SMPD 289A - Special Topics in Clinical Trials Management I 2 *unit(s)*

### Culminating Experience (3 units)

#### Plan B Project

- SMPD 289B - Clinical Trials Seminar II 3 *unit(s)*

## Total Units Required (35 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

#### *SCI 1 - Academic Excellence Workshop*

1-2 *unit(s)*

Cooperative learning activity to accompany selected College of Science courses and sections.

*Misc/Lab: Activity 4 hours.*

**Corequisite(s):** Enrollment in course and section accompanying workshop.

**Grading:** Credit/No Credit

**Note(s):** No credit toward requirements of the major or requirements of the minor for any science major or minor. May be used for university electives.

#### *SCI 2 - Success in Science*

3 *unit(s)*

Emphasis on development of study skills, time management, and personal growth needed to transition from high school to university. Orientation to SJSU policies and procedures; and degree and career options in science. Guest lecturers, peer advisors, and community building.

*Misc/Lab: Lecture 2 hour/activity 2 hours.*

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*SCI 75 - Fundamentals of Leadership and Career Accelerator*

3 unit(s)

This course is a foundational course designed to begin preparing students in their sophomore year or first year of transfer to SJSU to practice the leadership habits of mind and workplace skills needed to thrive in 21st century workplaces once they graduate from school. Given the increasingly competitive, and globalized job marketplace, this course enables participants to cycle through rounds of interactive experiences and practice to acquire "hard" and "soft" skills needed to succeed. Students will apply these skills in real-life leadership situations and build meaningful networks of peers and adults, all while activating their personal assets and deepening their sense of self and community.

*Misc/Lab: 2 hours lecture/ 2 hours lab*

**Prerequisite(s):** ENGL 1A

**Grading:** Graded

*SCI 90 - Success as Transfer Students*

2-3 unit(s)

Emphasis on development of study skills, time management, and personal growth needed to transition from community college to university. Orientation to SJSU policies and procedures; and degree and career options. Guest lecturers, peer advisors, and community building.

*Misc/Lab: Lecture 1 hour/activity 2 hours/recitation 1 hour.*

**Grading:** Graded

*SCI 101 - Leadership and Career Accelerator*

3 unit(s)

Prepares students for the increasingly competitive, globalized job marketplace. Through online, peer learning, interactive experiences, and reflection, students build meaningful networks, discover their innate leadership, and cultivate the hard" and "soft" skills and habits of mind needed to thrive in twenty-first century workplaces and make positive impact through their careers upon graduation. Aimed at students in their sophomore or junior year or first year of transfer, though all students of all majors can participate.

*2 hours Lecture/2 hours Activity.*

**Prerequisite(s):** ENGL 1A or ENGL 1AS with a grade of "C-" or better or complete GE Area A2 with a grade of "C-" or better.

**Grading:** Graded

*SCI 105 - Integrated Science Teacher Enhancement*

1-3 unit(s)

A thematic approach to the study of relevant topics and concepts in integrated science. Development of inquiry-based, hands-on classroom activities in integrated science.

**Prerequisite(s):** Teacher credential and/or instructor consent.

**Grading:** Credit/No Credit

*SCI 110 - Global Themes of Science*



3 unit(s)

The themes of energy, evolution, and systems & interactions are used to examine conceptual connections between biological, earth and physical sciences. Emphasis on strategies best suited to teach these unifying global themes of science.

**Prerequisite(s):** BIOL 21; GEOL 103 or Instructor consent.

**Grading:** Graded

*SCI 157SL - Community Action/Community Service*

3 unit(s)

A campus-wide service learning program with opportunities for direct involvement with local community services, both off campus and on campus. Weekly seminars held on campus or at the field site, plus four to six hours of community service work per week at the field site.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*SCI 180 - Individual Studies*

1-4 unit(s)

Work, under guidance, in special fields. Repeatable: Repeatable for credit.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*SCI 184 - Directed Reading*

1-4 unit(s)

Assigned readings of selected books, journals and special papers chosen to fill gaps in training or to introduce new fields. Evaluation through weekly reports and conferences.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*SCI 299 - Master's Thesis*

1-6 unit(s)

Thesis development for Plan A MA Natural Science students, to be carried out under direct supervision of a faculty member and committee. Seminar presentation required upon final completion of thesis. Repeatable: Repeatable for credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Admission to candidacy for the master's degree and selection of a thesis committee.

**Grading:** Mandatory CR/NC/RP

*SCI 1003 - Workshop Facilitator Training*

1 unit(s)

Practical collaborative education theory and techniques for academic excellence workshop facilitators. Repeatable: Repeatable for credit.

**Prerequisite(s):** Current appointment as AEW Facilitator.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*SMPD 202T - MPDM Seminars: Biomedical Business*

3 unit(s)

Special Topics seminar in the management principles and practices of medical product development. Repeatable for credit when topic changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Graduate Standing

**Grading:** Graded

*SMPD 281A - Clinical Development Seminar I*

3 unit(s)

Provides a comprehensive overview of the regulated medical product development process. Topics include initial drug development/device invention to drug/device approval and post-market surveillance. Discussions include non-clinical and clinical studies, regulations, clinical indication determination, research methodology and ethical conduct.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Admission to MPDM program or certificate.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*SMPD 281B - Clinical Development Seminar II*

2 unit(s)

Current practices for medical product development and the clinical and regulatory pathways required for approval in the USA; including non-clinical study design and GMP process. Emphasis on oral and written communication. Presentations from experts in the field.

*Misc/Lab: Lecture 2 hour/Activity 4 hours.*

**Prerequisite(s):** Admission to the Medical Product Development Management program and completion of SMPD 281A.

**Grading:** Graded

*SMPD 283A - Regulatory Affairs I, Biopharmaceutical*

3 unit(s)

Provide foundational knowledge of the pharmaceutical, biotechnology and biomedical industries with focus on company organization, product development and commercialization-associated activities such as chemical synthesis, device prototyping, quality assurance, regulatory affairs, manufacturing, control, marketing, and post-marketing surveillance.

**Grading:** Graded

*SMPD 283B - Regulatory Affairs II Device-Diagnostics*

3 unit(s)

Overview of laws and regulations enforced by the US Food and Drug Administration (FDA) and other Regulatory Agencies as they relate to biotechnology, medical device and diagnostic industries

**Prerequisite(s):** Admission to the MPDM program.

**Grading:** Graded

*SMPD 285 - MPDM Research / Practicum*

1 unit(s)

Independent research project / practicum to explore deeper understanding or breadth of experience in medical product development management.

*Course may be repeated for credit for up to 5 units.*

**Prerequisite(s):** Admission to MPDM program.

**Grading:** Credit/No Credit

*SMPD 286 - Statistical Methods in Clinical Trials*

3 unit(s)

Overview of statistical methods used in the design and interpretation of clinical trials of drugs and medical devices.

**Prerequisite(s):** Admission to the MPDM program.

**Grading:** Graded

*SMPD 287 - Informatics in Drug and Device Development*

3 unit(s)

Provides business and regulatory perspectives on electronic information technologies, processes and standards in the conduct of clinical trials. Special emphasis: data collection, clinical trial & data management randomization and drug supply, statistical processes, safety databases and electronic regulatory submission, electronic records and signatures, sys validation processes, and data standards.

**Prerequisite(s):** Admission to the MPDM program and completion of SMPD 286.

**Grading:** Graded

*SMPD 289A - Special Topics in Clinical Trials Management I*

2 unit(s)

Seminar focusing on critical issues in clinical development. This programmatic capstone series of seminars challenges the students to demonstrate a mature, professional manner and technical proficiency in the field.

Emphasis on oral and written communications. Course includes numerous presentations by industry experts.

*Misc/Lab: Lecture 2 hour/Activity 4 hours*

**Prerequisite(s):** Admission to MPDM program and completion of SMPD 285.

**Grading:** Graded

*SMPD 289B - Clinical Trials Seminar II*

*3 unit(s)*

Capstone course of the MPDM program

**Prerequisite(s):** Admission to MPDM program.

**Grading:** Graded

## Department of Biological Sciences

**Office:** Duncan Hall 254

**Telephone:** 408-924-4900

**Email:** bioassistant-group@sjsu.edu

**Website:** sjsu.edu/biology

### Professors

Tzvia Abramson  
David K. Bruck  
Jeffrey Honda  
Susan Lambrecht  
Elizabeth McGee-Bergerol  
William Murray  
Cleber Ouverney  
Sabine A. Rech  
Scott Shaffer  
Julio Soto  
Miri Van-Hoven

### Associate Professors

Shelley Cargill, Chair  
Rachael French  
Elizabeth Skovran  
J. Brandon White  
Katherine Wilkinson

### Assistant Professors

Walter Adams  
Benjamin Carter  
Jessica Castillo-Vardaro  
Maya deVries  
Bree Grillo-Hill

Frank Huynh  
Jennifer Johnston

## Overview

As leaders in the education of a highly trained and diverse scientific workforce, our mission is to provide a dynamic educational experience by engaging students in hands-on, inquiry-based learning activities at the bench and in the field. Through these experiences our students will gain a conceptual and experiential understanding of the biological sciences spanning from molecules to ecosystems.

Our Program goals are to:

- Serve the diverse student population of our region.
- Educate students to be intellectually agile and technologically proficient.
- Provide students with intensive, rigorous laboratory and field experiences within the context of their regular coursework.
- Create individualized mentoring opportunities and state-of-the-art learning experiences within the context of our faculty research programs.
- Foster creativity, a sound theoretical foundation, and the ability to communicate effectively and interact cooperatively.
- Make substantial contributions to the scientific community through our research efforts and that of our students.

## Honors Program

Students may apply for the honors program in Biology in BS - Biological Sciences (all concentrations). Students wishing to complete the honors program must:

1. Have a GPA of 3.5 or higher in courses required in the major,
2. Have an overall SJSU GPA of 3.0 or higher, and
3. Complete BIOL 186, BOT 186, or ZOOL 186 - Senior Thesis.

Senior thesis courses involve the student in the completion of a research project under the direct supervision of a faculty member. As such, the research project must be on a mutually agreed upon topic. It is recommended that the student submit a proposal for research to the faculty member and have that proposal approved in the last semester of his/her junior year. The student is required to present the results of the research in written form and as a seminar.

## Undergraduate

### Biological Science, BA

- Department of Biological Sciences
- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 35-41

Major Requirements	33-35
University Electives	6-14
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE Area C and 1 course in GE Area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in Area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (35-41 units)

- BIOL 100W - Scientific Communication Workshop 3 *unit(s)* (Z)
- BIOL 155 - Hypothesis Testing 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)

- PHYS 2A - Fundamentals of Physics *4 unit(s) (B1+B3)*
- PHYS 2B - Fundamentals of Physics *4 unit(s) (B1+B3)*

### Complete One Sequence From:

#### Organic Chemistry A

- CHEM 8 - Organic Chemistry *3 unit(s)*
- CHEM 9 - Organic Chemistry Lab *1 unit(s)*

#### Organic Chemistry B

- CHEM 112A - Organic Chemistry *3 unit(s)*
- CHEM 112B - Organic Chemistry *3 unit(s)*
- CHEM 113A - Organic Chemistry Lab *2 unit(s)*

### Complete One Course From:

- CHEM 132 - Introductory Biochemistry *4 unit(s)*
- CHEM 135 - General Biochemistry *4 unit(s)*

### Complete One Course From:

- MATH 19 - Precalculus *5 unit(s) (B4)*
- MATH 30 - Calculus I *3 unit(s) (B4)*

## Major Requirements (33-35 units)

### Core Courses (14-16 units)

- BIOL 30 - Principles of Biology I *4 unit(s) (B2+B3)*
- BIOL 31 - Principles of Biology II *4 unit(s) (B2+B3)*

### Complete One Course From:

- BIOL 115 - General Genetics *4 unit(s)*
- BIOL 118 - Evolutionary Genetics *4 unit(s)*

### Complete One Course From:

- BIOL 135B - Eukaryotic Cell and Molecular Biology II *3 unit(s) (R)*
- BIOL 159 - Integrative Biology *3 unit(s) (R)*
- BIOL 160 - Ecology *4 unit(s) (R)*
- BIOL 178 - Integrative Physiology *3 unit(s) (R)*
- MICR 127 - Microbial Physiology *3 unit(s) (R)*



## Major Electives (19 units)

- Upper Division Non-GE BIOL/BOT/ENT/ZOOL/MICR/MS Courses 19 unit(s)

## University Electives (6-14 units)

## Total Units Required (120 units)

# Biological Science, Microbiology Concentration, BS

- Department of Biological Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 17

Major Core Requirements 26

Laboratory Courses 16

Chemistry Minor Requirements 23

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/B, 2A/B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)

- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (17 units)

*Note: MATH 30P (5 units) or MATH 060 (5 units) or Calculus A/B or B/C Advanced Placement Exam with a score of 3 or higher is also acceptable*

- BIOL 55 - Biostatistics 3 *unit(s)*
- BIOL 100W - Scientific Communication Workshop 3 *unit(s)* (Z)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4) (*Note: MATH 30P (5 units), or MATH 30X (3 units), or MATH 60 (5 units), or Precalculus Proficiency Assessment with a score of 3 or higher is also acceptable.*)

### Major Requirements (42 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- BIOL 107 - Immunology 3 *unit(s)*
- MICR 101 - General Microbiology 5 *unit(s)*
- MICR 127 - Microbial Physiology 3 *unit(s)* (R)
- MICR 141 - Pathogenic Microbiology I 3 *unit(s)*
- MICR 166 - Bacterial Genetics 4 *unit(s)*

### Laboratory Courses (7 units)

Complete at least 7 units of laboratory courses from:

- BIOL 107L - Immunology Laboratory 2 *unit(s)*
- BIOL 116L - Genetics Laboratory 3 *unit(s)*
- BIOL 180 - Individual Studies 1-4 *unit(s)*
- MICR 122L - Bacterial Diversity Laboratory 2 *unit(s)*
- MICR 123L - Food Microbiology Laboratory 2 *unit(s)*

- MICR 127L - Microbial Physiology Laboratory 2 *unit(s)*
- MICR 140L - Hematology Laboratory 2 *unit(s)*
- MICR 141L - Pathogenic Microbiology I Laboratory 3 *unit(s)*
- MICR 142L - Pathogenic Microbiology II Laboratory 3 *unit(s)*

## Additional Laboratory Courses (9 units)

Complete 9 additional units from lab courses above or:

- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 116 - Molecular Genetics 4 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*
- BIOL 124 - Systems Physiology 3 *unit(s)*
- BIOL 125 - Systems Physiology Laboratory 2 *unit(s)*
- BIOL 134 - Vertebrate Histology 4 *unit(s)*
- BIOL 135A - Eukaryotic Cell and Molecular Biology I 3 *unit(s)*
- BIOL 135L - Molecular Cell Biology Lab 3 *unit(s)*
- BIOL 156 - Ecological Sampling Design and Analyses 3 *unit(s)*
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- MICR 122 - Bacterial Diversity 2 *unit(s)*
- MICR 123 - Food Microbiology 1 *unit(s)*
- MICR 140 - Hematology 3 *unit(s)*
- MICR 142 - Pathogenic Microbiology II 3 *unit(s)*
- MICR 170 - General Virology 3 *unit(s)*

## Chemistry Minor Requirements (23 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*
- CHEM 135 - General Biochemistry 4 *unit(s)*

## Total Units Required (120 units)

Students pursuing the California State Clinical Laboratory Science license should consult an advisor for additional requirements.

## Biological Science, Molecular Biology Concentration, BS

- Department of Biological Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	38
Major Preparation	17
Major Core Requirements	28
Concentration Electives	14
Chemistry Minor Requirements	23
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### **Prerequisite Requirements**

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (38 units)**

## **Core Lower Division General Education (24 units)**

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (17 units)

- BIOL 55 - Biostatistics 3 unit(s)
- BIOL 100W - Scientific Communication Workshop 3 unit(s) (Z)
- PHYS 2A - Fundamentals of Physics 4 unit(s) (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 unit(s) (B1+B3)
- MATH 30 - Calculus I 3 unit(s) (B4) (Note: MATH 30P (5 units), or MATH 30X (3 units), or MATH 60 (5 units), or Precalculus Proficiency Assessment with a score of 3 or higher is also acceptable)

## Major Requirements (42 units)

- BIOL 30 - Principles of Biology I 4 unit(s) (B2+B3)
- BIOL 31 - Principles of Biology II 4 unit(s) (B2+B3)
- BIOL 115 - General Genetics 4 unit(s)
- BIOL 116 - Molecular Genetics 4 unit(s)
- BIOL 116L - Genetics Laboratory 3 unit(s)
- BIOL 135A - Eukaryotic Cell and Molecular Biology I 3 unit(s)
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 unit(s) (R)
- BIOL 135L - Molecular Cell Biology Lab 3 unit(s)

## Biology Electives (14 units)

Complete 14 units of Biology electives:

- BIOL 105 - Principles of Developmental Biology 3 unit(s)
- BIOL 107 - Immunology 3 unit(s)
- BIOL 107L - Immunology Laboratory 2 unit(s)
- BIOL 117 - Human Genetics 3 unit(s)
- BIOL 119 - Neurogenetics 3 unit(s)
- BIOL 123A - Bioinformatics I 3 unit(s)
- BIOL 123B - Bioinformatics II 3 unit(s)
- BIOL 124 - Systems Physiology 3 unit(s)
- BIOL 125 - Systems Physiology Laboratory 2 unit(s)
- BIOL 136 - Vertebrate Neurophysiology 3 unit(s)
- BIOL 137 - Introduction to Principles of Toxicology 3 unit(s)
- BIOL 138 - Stem Cell Biology 3 unit(s)
- BIOL 139 - Cancer Biology 3 unit(s)
- BIOL 180 - Individual Studies 1-4 unit(s)
- BIOL 198 - Undergraduate Research 0.5-4 unit(s) (1-4 units required)
- MICR 101 - General Microbiology 5 unit(s)
- MICR 166 - Bacterial Genetics 4 unit(s)
- MICR 170 - General Virology 3 unit(s) (or other courses with prior advisor approval (at least 9 elective units must be in Biological Sciences))

## Chemistry Minor Requirements (23 units)

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)

- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*
- CHEM 135 - General Biochemistry 4 *unit(s)*

Total Units Required (120 units)

## Biological Science, Systems Physiology Concentration, BS

- Department of Biological Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	38
Major Preparation	17
Major Core Requirements	23
Concentration Electives	19
Chemistry Minor Requirements	23
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### Prerequisite Requirements



Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)

- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (17 units)

- BIOL 55 - Biostatistics 3 *unit(s)*
- BIOL 100W - Scientific Communication Workshop 3 *unit(s)* (Z)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4) (Note: MATH 30P (5 units), or MATH 30X (3 units), or MATH 60 (5 units), or Precalculus Proficiency Assessment with a score of 3 or higher is also acceptable)

### Major Requirements (42 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 124 - Systems Physiology 3 *unit(s)*
- BIOL 125 - Systems Physiology Laboratory 2 *unit(s)*
- BIOL 170 - Cellular and Molecular Physiology 3 *unit(s)*
- BIOL 178 - Integrative Physiology 3 *unit(s)* (R)

### Major Electives (19 units)

Complete 16 units:

- BIOL 105 - Principles of Developmental Biology 3 *unit(s)*
- BIOL 107 - Immunology 3 *unit(s)*
- BIOL 107L - Immunology Laboratory 2 *unit(s)*
- BIOL 131 - Endocrine Physiology 3 *unit(s)*
- BIOL 135L - Molecular Cell Biology Lab 3 *unit(s)*
- BIOL 136 - Vertebrate Neurophysiology 3 *unit(s)*
- BIOL 136L - Vertebrate Neurophysiology Laboratory 1 *unit(s)*

- BIOL 137 - Introduction to Principles of Toxicology 3 unit(s)
- BIOL 165 - Advanced Human Anatomy 4 unit(s)
- BIOL 167 - Cardiorespiratory Physiology 3 unit(s)
- BIOL 168 - Reproductive Physiology 3 unit(s)
- BIOL 180 - Individual Studies 1-4 unit(s)

### Complete 3 units:

*Courses can also be taken from 16-unit choice list above.*

*Other courses with prior advisor consent*

- BIOL 116 - Molecular Genetics 4 unit(s)
- BIOL 116L - Genetics Laboratory 3 unit(s)
- BIOL 117 - Human Genetics 3 unit(s)
- BIOL 119 - Neurogenetics 3 unit(s)
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 unit(s) (R)
- MICR 101 - General Microbiology 5 unit(s)
- MICR 140 - Hematology 3 unit(s)
- MICR 140L - Hematology Laboratory 2 unit(s)

### Chemistry Minor Requirements (23 units)

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- CHEM 1B - General Chemistry 5 unit(s) (B1+B3)
- CHEM 112A - Organic Chemistry 3 unit(s)
- CHEM 112B - Organic Chemistry 3 unit(s)
- CHEM 113A - Organic Chemistry Lab 2 unit(s)
- CHEM 120S - Chemical Safety Seminar 1 unit(s)
- CHEM 135 - General Biochemistry 4 unit(s)

### Total Units Required (120 units)

## Ecology and Evolution, BS

- Department of Biological Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 31-33

Major Requirements 49-51

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### **Prerequisite Requirements**

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (38 units)**

### **Core Lower Division General Education (24 units)**

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### **Upper Division General Education (6 units)**

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies

(AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

**U.S History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (31-33 units)**

- BIOL 100W - Scientific Communication Workshop 3 *unit(s)* (Z)
- BIOL 156 - Ecological Sampling Design and Analyses 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 8 - Organic Chemistry 3 *unit(s)*
- CHEM 9 - Organic Chemistry Lab 1 *unit(s)*
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

**Complete One Course From:**

- MATH 19 - Precalculus 5 *unit(s)* (B4)
- MATH 30 - Calculus I 3 *unit(s)* (B4)

## Major Requirements (49-51 units)

### Core Courses (41 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- BIOL 106 - Physiological Ecology 3 *unit(s)*
- BIOL 106L - Physiological Ecology Lab 1 *unit(s)*
- BIOL 113 - Comparative Taxonomy 3 *unit(s)*
- BIOL 114 - Functional Morphology 3 *unit(s)*
- BIOL 160 - Ecology 4 *unit(s)* (R)
- BIOL 163 - Conservation Biology 3 *unit(s)*
- BOT 165 - Plant Communities of California 4 *unit(s)*
- ENT 101 - Insect Diversity 4 *unit(s)*

### Complete One Course From:

- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*

### Complete One Course From:

- ZOOL 115 - Invertebrate Zoology and Natural History 4 *unit(s)*
- ZOOL 116 - Vertebrate Evolution and Natural History 4 *unit(s)*

## Major Electives (8-10 units)

Complete 8-10 units from:

*BIOL 115* and *BIOL 118* (which ever wasn't taken above)

*ZOOL 115* and *ZOOL 116* (which ever wasn't taken above)

- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*
- BIOL 155 - Hypothesis Testing 3 *unit(s)*
- BIOL 164 - Ecological Field Methods 3 *unit(s)*
- BIOL 180 - Individual Studies 1-4 *unit(s)*
- BOT 104 - Plant Taxonomy 4 *unit(s)*
- ENT 106 - Forensic Entomology 3 *unit(s)*
- GEOL 137 - Introduction to GPS/GIS for Geologic Applications 4 *unit(s)*
- ZOOL 115 - Invertebrate Zoology and Natural History 4 *unit(s)*
- ZOOL 116 - Vertebrate Evolution and Natural History 4 *unit(s)*
- ZOOL 143 - Biogeography 3 *unit(s)*

- Other upper-division non-GE BIOL/BOT/ENT/ZOOL/MICR/MS electives with prior advisor approval

## Total Units Required (120 units)

Students must obtain a prior advisor approval for electives and for choice of courses within categories.

## Marine Biology, BS

- Department of Biological Sciences
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 35

Major Preparation 34

Major Requirements 51

**Total 120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Major-Specific Graduation Requirements

Students in this major must complete all lower division courses in the Requirements of the Major with a "C- or better" to graduate.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### **Complete One Sequence From:**

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement



At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (34 units)

- BIOL 55 - Biostatistics 3 *unit(s)*
- BIOL 100W - Scientific Communication Workshop 3 *unit(s)* (Z)
- BIOL 156 - Ecological Sampling Design and Analyses 3 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 8 - Organic Chemistry 3 *unit(s)*
- CHEM 9 - Organic Chemistry Lab 1 *unit(s)*
- CHEM 132 - Introductory Biochemistry 4 *unit(s)*
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)

## Major Requirements (51 units)

### Core Courses (34 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- BIOL 106 - Physiological Ecology 3 *unit(s)*
- BIOL 106L - Physiological Ecology Lab 1 *unit(s)*
- BIOL 113 - Comparative Taxonomy 3 *unit(s)*
- BIOL 114 - Functional Morphology 3 *unit(s)*
- BIOL 160 - Ecology 4 *unit(s)* (R)
- MS 103 - Marine Ecology 4 *unit(s)*
- MS 144 - Biological Oceanography 4 *unit(s)*

### Complete One Course From:

- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*

## Major Electives (17 units)

Complete 17 units from:

*BIOL 115 and BIOL 118 (which ever wasn't taken above)*

- BIOL 115 - General Genetics 4 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*
- BIOL 155 - Hypothesis Testing 3 *unit(s)*
- BIOL 164 - Ecological Field Methods 3 *unit(s)*

- BIOL 180 - Individual Studies 1-4 *unit(s)*
- GEOL 137 - Introduction to GPS/GIS for Geologic Applications 4 *unit(s)*
- MS 104 - Quantitative Marine Science 4 *unit(s)*
- MS 105 - Marine Science Diving 3 *unit(s)*
- MS 112 - Marine Birds and Mammals 4 *unit(s)*
- MS 113 - Marine Ichthyology 4 *unit(s)*
- MS 124 - Marine Invertebrate Zoology I 4 *unit(s)*
- MS 131 - Marine Botany 4 *unit(s)*
- MS 180 - Independent Studies 1-4 *unit(s)*
- ZOOL 115 - Invertebrate Zoology and Natural History 4 *unit(s)*
- ZOOL 116 - Vertebrate Evolution and Natural History 4 *unit(s)*
- Other upper-division non-GE BIOL/BOT/ZOOL/MICR/MS electives with prior advisor approval

Total Units Required (120 units)

## Master

### Biological Sciences, Ecology and Evolution Concentration, MS

The master's program in Biological Sciences with a concentration in Ecology and Evolution, offered by the Department of Biological Sciences, offers students training in the pursuit of rigorous scientific investigation with an emphasis on ecological and evolutionary processes. Students in this degree program emphasize botany, entomology, zoology, or conservation biology through choice of advisor, committee, course work, and thesis or project. Our graduates have an excellent grasp of theory and application of ecological and evolutionary principles.

In addition, students with our degree will have gained experience in critical thinking, problem solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high-level academic and nonacademic positions in both the private and public sectors.

For more information visit <http://www.sjsu.edu/biology>.

## Admissions Requirements

Candidates must meet all the university admission requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a 1-2 page personal statement that includes the following sections: an explanation of why the student wants to earn an MA or MS, their long-term goals and how will the degree help facilitate those goals, the names of up to three tenure-track faculty members whose research interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: [www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html](http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html).

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These

conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have comp achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by completion of BIOL 202 with a grade of "B" or higher.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS Biological Sciences, Concentration in Ecology and Evolution, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*A grade of "B" or better in BIOL 202 will satisfy the graduate competency in writing requirement.*

### Culminating Experience Requirements

#### Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee

chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

### **Plan B (Project)**

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

Oral Project Defense: All MS candidates are required to present a public seminar based on their research project.

## Masters Requirements (30 units)

### Core Courses (15 units)

- BIOL 201 - Graduate Seminar in Biological Sciences 1 unit(s)
- BIOL 202 - Graduate Studies in Biology 3 unit(s) (GWAR)
- BIOL 220 - Science Communication 3 unit(s)
- BIOL 297 - Graduate Research 1-4 unit(s) (Students take a total of 8 core units of this class.)

### Concentration Courses (9 units)

- BIOL 218 - Evolution 3 unit(s)
- BIOL 256 - Advanced Experimental Design and Analysis 3 unit(s)
- BIOL 255E - Advanced Topics: Ecology and Evolution 1-4 unit(s) (3 units required)

### Electives (5 units)

*Elective courses must be planned in consultation with the Graduate Advisor.*

- BIOL 255E - Advanced Topics: Ecology and Evolution 1-4 unit(s) (3 units required)
- BIOL 255L - Advanced Biology Laboratory 1-4 unit(s) (3 units required)
- BIOL 255M - Advanced Topics: Molecular & Microbiology 1-4 unit(s) (3 units required)
- BIOL 255P - Seminar in Advanced Biology: Physiology 1-4 unit(s) (3 units required)
- 100- or 200-level courses chosen with advisor consent

### Culminating Experience (1 unit)

#### **Complete One Option (Plan A or Plan B):**

#### **Plan A (Thesis)**

- BIOL 299 - Master's Thesis 1-4 unit(s) (1 unit required)

- Seminar- Thesis Defense

### Plan B (Project)

- BIOL 298 - MS Project Culminating Experience *1 unit(s)*
- Seminar- Project Defense

### Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Biological Sciences, MA

The MA in Biological Sciences, offered by the Department of Biological Sciences, offers students broad training in areas of science that may include general biology, plant biology, cell biology, ecology, entomology, genetics, microbiology, immunology, systems physiology, toxicology, zoology, or, under special circumstances, marine biology. Students with an MA in Biological Sciences go on to careers in research, biotechnology, medical and health sciences, and teaching.

For more information visit the program website at: [www.sjsu.edu/biology](http://www.sjsu.edu/biology).

## Admissions Requirements

### University Admissions

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admission requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MA in Biological Sciences.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. The program does not currently require the GRE for admission.

### Admission to the Program

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a personal statement and two letters of recommendation from people who can evaluate your potential to succeed in a graduate program.

Note: Applicants' admission into the program is contingent upon their being accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences who will become their major advisor. Applicants must contact tenured or tenure-track faculty members.

## **Requirements for Admission to Classified Standing**

Students can be admitted in either classified or conditionally classified standing. To be admitted to the MA in Biological Sciences program in Classified status, an applicant must meet all of the minimum university and departmental requirements for admission.

## **Admission to Conditionally Classified Standing**

If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental and/or faculty requirements, the conditions will include passing additional courses (specified by the student's major advisor) in the first semester of the program with a grade of B or better. The program admissions letter will explain terms and requirements.

## **Requirements for Advancement to Candidacy**

Each semester, students should consult with their graduate advisor as to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancement to candidacy. Students who have completed matriculation and achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of graded work as a graduate student in letter-graded 100- or 200- level courses acceptable to the AE Department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by the completion of BIOL 202 with a "B" or higher.

## **Requirements for Graduation**

### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### **Graduation Writing Assessment Requirement**

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### **Culminating Experience**

Students in the MA, Biological Sciences may complete the program Culminating Experience through either a comprehensive exam or graduate project. Students who have advanced to candidacy, and who have completed or

are in the final semester of completing the 30 units of required coursework will choose, in consultation with their major advisor, one of two options for their Culminating Experience. The program does not offer a thesis option.

### **Plan B (Comprehensive Exam)**

Students choosing the Plan B (Comprehensive Exam) will enroll in BIOL 298M - MA Culminating Experience, and successfully complete written exam, followed by an oral exam as their culminating experience. The advising committee determines the format of the written and oral exams. Once the written portion of the exam is passed, students take a two- to three-hour oral examination. Successful completion of both exams is required for award of the MA Biological Sciences degree. Students who are not successful in their first attempt will have one opportunity to retake one or both exams. Written and oral exams will include material from graduate-level coursework taken by the student. Successful completion of both the written and oral exam is determined by a majority vote of the student's graduate committee.

### **Plan B (Project)**

The student choosing the Plan B (Project) must enroll in the 1-unit BIOL 298M - MA Culminating Experience and complete a research project that has been approved and supervised by their major advisor. This culminating experience option requires students to complete a written report in the style of a manuscript for publication that describes the project and to deliver an oral presentation describing the project to the advising committee. Research projects for the MA Biological Sciences are typically 1-2 semesters in duration. Successful completion of both the manuscript and the oral presentation is determined by a majority vote of the student's graduate committee.

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select coursework.

## **Masters Requirements (30 units)**

### **Core Courses (15 units)**

- BIOL 201 - Graduate Seminar in Biological Sciences *1 unit(s) (2 units required)*
- BIOL 202 - Graduate Studies in Biology *3 unit(s) (GWAR)*

### **Foundations in Biology (3 units)**

Complete one course:

- BIOL 215 - Seminar in Advanced Genetics *3 unit(s)*
- BIOL 218 - Evolution *3 unit(s)*
- BIOL 230 - Comparative Animal Physiology *3 unit(s)*

### **Current Trends in Biology (3 units)**

Complete one course:

- BIOL 255E - Advanced Topics: Ecology and Evolution *1-4 unit(s)*
- BIOL 255M - Advanced Topics: Molecular & Microbiology *1-4 unit(s)*
- BIOL 255P - Seminar in Advanced Biology: Physiology *1-4 unit(s)*

### **Supervised Studies (4 units)**

Complete 4 units:

- BIOL 280 - Individual Studies 1-3 unit(s)
- BIOL 284 - Master's Directed Reading 1-3 unit(s)

## Electives (14 units)

*Students may enroll in a maximum combination of 4 units in BIOL 280 and BIOL 284.*

- BIOL 205 - Advanced Molecular Techniques 4 unit(s)
- BIOL 215 - Seminar in Advanced Genetics 3 unit(s)
- BIOL 218 - Evolution 3 unit(s)
- BIOL 220 - Science Communication 3 unit(s)
- BIOL 227 - Advanced Physiology 3 unit(s)
- BIOL 233 - Immunological Techniques 3 unit(s)
- BIOL 230 - Comparative Animal Physiology 3 unit(s)
- BIOL 255E - Advanced Topics: Ecology and Evolution 1-4 unit(s) (3 units required)
- BIOL 255L - Advanced Biology Laboratory 1-4 unit(s) (3 units required)
- BIOL 255M - Advanced Topics:Molecular & Microbiology 1-4 unit(s) (3 units required)
- BIOL 255P - Seminar in Advanced Biology: Physiology 1-4 unit(s) (3 units required)
- BIOL 256 - Advanced Experimental Design and Analysis 3 unit(s)
- BIOL 280 - Individual Studies 1-3 unit(s)
- BIOL 284 - Master's Directed Reading 1-3 unit(s)
- 100- or 200-level courses chosen with advisor consent

## Culminating Experience (1 unit)

**Choose One Option:**

### Plan B (Project)

- BIOL 298M - MA Culminating Experience 1 unit(s)
- Comprehensive Written Examination 0 unit(s)
- Comprehensive Oral Examination 0 unit(s)

### Plan B (Comprehensive Exam)

- BIOL 298M - MA Culminating Experience 1 unit(s)
- Comprehensive Written Examination 0 unit(s)
- Comprehensive Oral Examination 0 unit(s)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.



Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Biological Sciences, Molecular Biology and Microbiology Concentration, MS

The Master of Science program in Biological Sciences with a concentration in Molecular Biology and Microbiology, offered by the Department of Biological Sciences, offers students training in the pursuit of rigorous scientific investigation with an emphasis on discovering the molecular mechanisms that underlie biological processes such as behavior, cell biology, immunology, microbial diversity, microbial engineering, pathogenesis, and neural development. During their research experience, students acquire the skills necessary to successfully address a variety of research questions under the guidance of faculty.

In addition, students with our degree will have gained experience in critical thinking, problem-solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high level academic and non-academic positions in both the private and public sectors.

For more information visit [www.sjsu.edu/biology](http://www.sjsu.edu/biology).

## Admissions Requirements

Candidates must meet all the university admission requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences an explanation of why the student wants to earn an MS or MA, their long-term goals and how the degree will help facilitate those goals, the names of up to three tenured or tenure-track faculty members whose research interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: [www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html](http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html).

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as

fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by the completion of BIOL 202 with a grade of "B" or better.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS Biological Sciences, Concentration in Ecology and Evolution, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*A grade of "B" or better in BIOL 202 will satisfy the graduate competency in writing requirement.*

### Culminating Experience Requirements

#### Plan A (Thesis)

**Thesis:** The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

**Oral Thesis Defense:** All MS candidates are required to present a public seminar based on their research project.

#### Plan B (Project)

**Written Project:** The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

**Oral Project Defense:** All MS candidates are required to present a public seminar based on their research project.

### Masters Requirements (30 units)

## Core Courses (15 units)

- BIOL 201 - Graduate Seminar in Biological Sciences 1 unit(s)
- BIOL 202 - Graduate Studies in Biology 3 unit(s) (GWAR)
- BIOL 220 - Science Communication 3 unit(s)
- BIOL 297 - Graduate Research 1-4 unit(s) (Students take a total of 8 core units of this class.)

## Concentration Courses (9 units)

- BIOL 205 - Advanced Molecular Techniques 4 unit(s)
- BIOL 215 - Seminar in Advanced Genetics 3 unit(s)
- BIOL 255M - Advanced Topics:Molecular & Microbiology 1-4 unit(s) (Students take at least 2 units of this class)

## Electives (5 units)

*Elective courses must be planned in consultation with the Graduate Advisor*

- BIOL 233 - Immunological Techniques 3 unit(s)
- BIOL 255L - Advanced Biology Laboratory 1-4 unit(s)
- BIOL 255M - Advanced Topics:Molecular & Microbiology 1-4 unit(s) (3 units required)
- Other 100- or 200-level courses chosen with advisor consent

## Culminating Experience (1 unit)

**Complete One Option (Plan A or Plan B):**

### Plan A (Thesis)

- BIOL 299 - Master's Thesis 1-4 unit(s) (1 unit required)
- Seminar- Thesis Defense

### Plan B (Project)

- BIOL 298 - MS Project Culminating Experience 1 unit(s)
- Seminar- Project Defense

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Biological Sciences, Physiology Concentration, MS

The master's program in Biological Sciences with a concentration in Physiology, offered by the Department of Biological Sciences, offers students training in the pursuit of rigorous scientific investigation with an emphasis on the integrative nature of physiology across levels of organization from molecule to organism. During their research experience, students acquire the skills necessary to successfully address a variety of research questions under the guidance of faculty.

In addition, students with our degree will have gained experience in critical thinking, problem-solving, research methodology (e.g., experimental design, sampling techniques, and analysis), and both written and oral communication. Our alumni are successful applicants for doctoral degree programs and generally attain high level academic and non-academic positions in both the private and public sectors.

For more information visit: [www.sjsu.edu/biology](http://www.sjsu.edu/biology).

## Admissions Requirements

Candidates must meet all the university admission requirements.

In addition, applicants must submit to the Graduate Coordinator for the Department of Biological Sciences a 1-2 page personal statement that includes the following sections: an explanation of why the student wants to earn an MS or MA, their long-term goals and how the degree will help facilitate those goals, the names of up to three tenured or tenure-track faculty members whose research interests them, and two letters of recommendation. **Applicants must also be accepted by a tenured or tenure-track faculty member in the Department of Biological Sciences prior to acceptance by the program.** It is the student's responsibility to contact any potential faculty advisors. For complete details on the student approval process, please visit: [www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html](http://www.sjsu.edu/biology/graduate-programs/prospective-ms-students/index.html).

Students can be admitted in either classified or conditionally classified standing. Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Advancement to Graduate Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by the completion of BIOL 202 with a grade of "B" or better.

# Requirements for Graduation

## University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## MS - Biological Sciences, Concentration in Physiology, Graduation Requirements

As shown below, the program consists of 30 semester units of approved work. The student consults with his or her advisor to select a thesis or project topic.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*A grade of 'B' or better in BIOL 202 will satisfy the graduate competency in writing requirement.*

## Culminating Experience Requirements

### Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee. The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval.

Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

### Plan B (Project)

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's graduate committee chair with the assistance of their graduate committee. The manuscript must be approved by the student's graduate committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

Oral Project Defense: All MS candidates are required to present a public seminar based on their research project.

## Masters Requirements (30 units)

### Core Courses (15 units)

- BIOL 201 - Graduate Seminar in Biological Sciences 1 unit(s)
- BIOL 202 - Graduate Studies in Biology 3 unit(s) (GWAR)
- BIOL 220 - Science Communication 3 unit(s)
- BIOL 297 - Graduate Research 1-4 unit(s) (Students take a total of 8 core units of this class.)

### Concentration Courses (9 units)

- BIOL 227 - Advanced Physiology 3 unit(s)
- BIOL 230 - Comparative Animal Physiology 3 unit(s)
- BIOL 255P - Seminar in Advanced Biology: Physiology 1-4 unit(s) (Students take at least 3 units of this course.)

### Electives (5 units)

*Elective courses must be planned in consultation with the Graduate Advisor.*

- BIOL 255E - Advanced Topics: Ecology and Evolution 1-4 unit(s)
- BIOL 255L - Advanced Biology Laboratory 1-4 unit(s)
- BIOL 255M - Advanced Topics: Molecular & Microbiology 1-4 unit(s)
- BIOL 255P - Seminar in Advanced Biology: Physiology 1-4 unit(s)
- 100- or 200-level courses chosen with advisor consent

### Culminating Experience (1 unit)

#### **Complete One Option (Plan A or Plan B):**

#### Plan A (Thesis)

- BIOL 299 - Master's Thesis 1-4 unit(s) (1 unit required)
- Seminar- Thesis Defense

#### Plan B (Project)

- BIOL 298 - MS Project Culminating Experience 1 unit(s)
- Seminar- Project Defense

### Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

A public seminar on the thesis or project must be given.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## **Biotechnology, MBT**

The Master of Biotechnology (MBT) program, offered by the Department of Biological Sciences, integrates advanced, hands-on training in laboratory-based molecular biology courses with MBA-level business courses from the College of Business. The core courses provide an introduction to aspects of the biotechnology industry including drug development, marketing, finance, and intellectual property. The required internship experience allows the students to apply what they have learned in real-life settings.

Through elective choices, students supplement the core program with additional hands-on science or MBA courses in support of their career goals. MBT program graduates are highly trained individuals who have had direct exposure to the biotechnology corporate world and are ready to make immediate contributions to biotechnology companies. Graduates work in a variety of positions in research, product development, marketing, regulatory affairs, clinical affairs, project management, quality, and others.

For more information visit: [www.sjsu.edu/biology](http://www.sjsu.edu/biology).

## **Admissions Requirements**

### **University Admissions**

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply) and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Master in Biotechnology degree program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

### **Admission to the Program**

Applicants must submit to the Program Director their unofficial transcripts, GRE and TOEFL scores, two letters of recommendation, a statement of purpose and a resume. Potential candidates will be interviewed during the spring semester. Admission is based on the acceptance to the university and the outcome of the interview.

## **Requirements for Advancement to Candidacy**

All students will submit their Advancement to Candidacy petitions during the fall of their second year, after having fulfilled all University requirements for advancement to candidacy, as detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by the completion of BIOL 202TA and BIOL 202TB with grades of "B" or higher.

## **Requirements for Graduation**

### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Requirements

The Master of Biotechnology program consists of 36 semester units of approved work. It includes a 2-unit internship in the biotechnology industry.

### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow the special session fees and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or the program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the IES website for more information.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing BIOL 202TA and BIOL 202TB.*

## Culminating Experience

### Plan B (Project)

The culminating experience is the Biotechnology Colloquium (BIOL 285T), which includes the preparation of a business plan for a biotechnology startup company.

## Master's Requirements (36 units)

### Core Courses (29 units)

- BIOL 202TA - Biotech Seminar: Biotech Products 3 unit(s) (GWAR)
- BIOL 202TB - Biotech Seminar: Drug Development Process 3 unit(s) (GWAR)
- BIOL 202TC - Biotech Seminar: Biotech Business I 2 unit(s)
- BIOL 202TD - Biotech Seminar: Biotech Business II 2 unit(s)
- BIOL 205T - Advanced Molecular Techniques for Biotechnology 4 unit(s)
- BIOL 280T - Internship in the Biotechnology Industry 2 unit(s)
- BIOL 282C - Biotechnology Company Management 3 unit(s)
- BUS 282A - Essentials of Management and Organizational Behavior 3 unit(s)
- BUS 282B - Essentials of Operations Management 3 unit(s)

### Complete One Course From:

- BIOL 221T - Advanced Bioinformatics for Biotechnology 4 unit(s)



- BIOL 255T - Introduction to Stem Cell Techniques *4 unit(s)*

## Electives (6 units)

Students must take any two of the following 200-level science and/or business courses:

### Science Electives

- BIOL 227T - Principles of Pharmacology *3 unit(s)*
- BIOL 229T - Biotechnology Instrumentation *3 unit(s)*
- BIOL 233T - Immunological Techniques for Biotechnology *3 unit(s)*
- BIOL 283T - Topics in Biotech Regulatory Affairs *3 unit(s)*
- BIOL 281T - Individual Studies in Biotechnology *1-4 unit(s)*

### Business Electives

- 200-level Business electives chosen in consultation with the Program Director

## Culminating Experience (Plan B) (1 unit)

- BIOL 285T - Colloquium in Biotechnology *1 unit(s)*

## Total Units Required (36 units)

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Clinical Lab Scientist Certificate (Graduate)

The Clinical Laboratory Scientist Training Program at San Jose State University is a 12 month training program that prepares students to take the ASCP national exam for Clinical Laboratory Scientists and obtain a California State Clinical Laboratory Scientist license.

The training program is a 40 hour per week commitment with an emphasis on hands-on learning in the hospital setting. Most weeks, students will spend 32 hours training at a clinical site and 8 hours in lecture. For more information on the program, please visit our website at [www.sjsu.edu/cls](http://www.sjsu.edu/cls).

As part of the application process, a group of applicants will participate in interviews which include representatives from our clinical affiliates. Students are admitted to the program based on a weighted score which takes into account the documents in their application, their performance during interview and an essay written on the day of the interview.

#### Admission Policies and Prerequisites

To be admitted to the program you must have:

- A bachelor's degree in biology or a related science
- 18 semester units of Biology including instruction in Immunology, Hematology, Medical Microbiology
- 16 semester units of Chemistry including instruction in Biochemistry and Quantitative Analysis
- 3 semester units of Physics including instruction in optics and electromagnetism
- 3 semester hours of mathematics (statistics or calculus)
- A minimum G.P.A. of 2.8 on a 4 point scale
- A minimum G.P.A. of 3.0 in last 60 units
- Completion of Hematology, Immunology and Medical Microbiology courses with a grade of B or better within 5 years of application
- Coursework in Human or Mammalian Physiology and Human or General Genetics
- Three (3) letters of recommendation
- Acceptance by the SJSU CLS Program Selection Committee and a Clinical Affiliate
- All applicants must have completed 12 semester units of upper-division science course work at an United States university before applying to the program
- All applicants must have the legal right to work in the United States
- For students with a degree from a foreign university, TOEFL (minimum score of 100 or equivalent IELTS score)
- Meet admission requirements for San Jose State University (do not apply until AFTER you have been accepted to SJSU CLS Training Program and have been given instructions on how to proceed)
- Hold CLS Training license granted by State of California, Laboratory Field Services (apply AFTER you have been accepted to SJSU CLS Training Program)

### **Interview and Matching Process**

A committee comprised of SJSU Biology Department faculty members review and score each candidate's application and then meet to determine which candidates they will be inviting to interview. Candidates who are invited to interview receive the contact information for the education coordinators at the various clinical sites. They are invited to arrange tours of the participating facilities before they come to interview. We like to give at least a month for the candidates to make these arrangements. Candidates are asked to come to interview prepared to rank the clinical sites in their order of preference.

The interviews are conducted over two days, with each day having a morning and an afternoon interview session. Each session begins with a short essay (topic to be revealed at that time). Following that, there is a brief opportunity to speak with the education coordinators and CLS Training Program staff at a meet & greet breakfast (or lunch). Candidates will then have an opportunity to interview with the education coordinators, scheduled in 15-minute increments. There are generally 8-12 education coordinators seated around the conference table with the candidate sitting at the head of the table. Candidates are all asked the same questions, with time at the end for additional discussion as desired. The education coordinators score each candidate on their interview.

At the end of the two days of interviews, the education coordinators are asked to fill out a form indicating which candidates they would be willing to train. They do not rank the candidates, they merely check "Yes" next to the names of candidates that are acceptable to them.

The CLS Training Program compiles all of the scores (application 50%, interview 40%, and essay 10%) to determine a ranking. With that ranking in hand, we take the preference sheet from the highest ranked candidate and determine his/her 1st choice of training facility. We then look to the form filled out by the education coordinator to see if they had indicated a willingness to train them. If they checked "yes", we have a match. If there was no match, we go to the candidate's 2nd choice of training facility, continuing until we have a match. We then continue down the list matching candidates in order of their ranking until all training positions have been filled.

We announce matches in coordination with the other training schools to allow candidates the opportunity to weigh their options from each school at the same time. We send out emails notifying the candidates of their matches.

Candidates who are not matched are notified of their alternate status. If a candidate chooses to decline a match to accept a position at another school, we then go to the highest ranked candidate in our alternate list and go through the matching process again.

Candidates not placed stay in our alternate pool until training begins. If they do not receive a placement, we are happy to move letters and transcripts forward to a new application cycle, but a new application must be submitted.

## Certificate Core (24 units)

- MICR 291A - Advanced Hematology *4 unit(s)*
- MICR 291B - Advanced Pathophysiology *4 unit(s)*
- MICR 291C - Advanced Human Immunology *4 unit(s)*
- MICR 291D - Advanced Medical Microbiology *4 unit(s)*
- MICR 291E - Advanced Immunohematology *4 unit(s)*
- MICR 291F - Molecular Based Diagnostic Techniques *4 unit(s)*

## Additional Core (21 units)

Three semesters of the following course:

- MICR 291G - Clinical Laboratory Management *4 unit(s)*
- MICR 292 - Topics and Demonstrations in Clinical Laboratory Science *3 unit(s)*

## Total Units Required (45 units)

## Minor

### Bioinformatics Minor

Insights into many areas of biology, including genomics, molecular biology, neuroscience, physiology, microbiology, ecology and evolution, can be gained using computational methods. Bioinformatics is the use of computational tools to understand important questions in the biological sciences. The minor in bioinformatics gives students a background in the biological sciences, computation skills, and experience using these skills to address biological questions. The minor requires 8 units of biology courses, 6 units of introductory courses in a programming language (either Python or Java), and 6 units of courses in bioinformatics.

At least 12 of units must be distinct from the requirements of the student's major. At least six units must be completed at SJSU. The minimum aggregate GPA for all coursework required for the minor must be at least 2.0. A grade of "C-" or better is required for courses being used to meet any requirement in the minor.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (20 units)

## Lower Division (14 units)

- BIOL 30 - Principles of Biology I 4 unit(s) (B2B3)
- BIOL 31 - Principles of Biology II 4 unit(s) (B2B3)
- CS 22A - Python Programming for Non Majors I 3 unit(s)
- CS 22B - Python Programming for Non Majors II 3 unit(s)

### Upper Division (6 units)

- BIOL 123A - Bioinformatics I 3 unit(s)
- BIOL 123B - Bioinformatics II 3 unit(s)

### Total Units Required (20 units)

## Biological Science Minor

Environmental Studies students should consult a Biology Advisor.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

*At least six (6) units, selected in consultation with the Biological Sciences Department advisor for minors, must be taken at San Jose State University.*

- BIOL 20 - Ecological Biology 3 unit(s) (B2+B3)
- BIOL 21 - Human Biology 3 unit(s) (B2+B3)
- Ten to twelve (10-12) additional units in biological sciences courses of which six (6) units must be upper division 10-12 unit(s)

### Total Units Required (18 units)

## Science Minor

The science minor does not qualify for a science teaching minor. See the Science Education Program advisor for the supplementary science credential requirements. This minor is not open to majors in College of Science, except mathematics and computer science.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major, and a minimum of 6 units of coursework must be upper-division (University Policy S16-4).

### Minor Requirements (22 units)

### Prerequisite (6 units)

General Education requirements in science at San Jose State University

## Additional Courses (16 units)

**Select at least 3 Units per Category; Complete at Least One of Each Category:**

### Biological Science

Complete one course from:

- BIOL 20 - Ecological Biology 3 *unit(s)* (B2B3)
- BIOL 21 - Human Biology 3 *unit(s)* (B2B3)
- BIOL 54 - Human Understanding 3 *unit(s)* (E)
- BIOL 65 - Human Anatomy 4 *unit(s)* (B2B3)
- BIOL 66 - Human Physiology 5 *unit(s)* (B2B3)
- BIOL 101 - Origins of Life 3 *unit(s)* (R)
- BIOL 109 - Human Neuroanatomy and Physiology 4 *unit(s)*
- BIOL 110 - Biodiversity and Biopolitics 3 *unit(s)* (R)
- BIOL 140 - Human Sexuality 3 *unit(s)* (S)
- MICR 20 - General Bacteriology 5 *unit(s)* (B2B3)

### Physical Science

Complete one course from:

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 8 - Organic Chemistry 3 *unit(s)*
- CHEM 30B - Introductory Chemistry 3 *unit(s)*
- PHYS 1 - Elementary Physics 3 *unit(s)* (B1)
- PHYS 1L - Elementary Physics Lab 1 *unit(s)* (B3)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

### Earth Science

Complete one course from:

- ASTR 101 - Modern Astronomy 3 *unit(s)* (R)
- ASTR 102 - Astronomy Lab 1 *unit(s)* (B3)
- AVIA 110 - Aviation Meteorology 3 *unit(s)*
- GEOL 1 - General Geology 4 *unit(s)* (B1+B3)
- GEOL 6 - Geology of California 3 *unit(s)* (B1)
- GEOL 111 - Geology and the Environment 3 *unit(s)* (R)
- METR 112 - Global Climate Changes 3 *unit(s)* (R)

## Total Units Required (22 units)

For all courses for the minor, the instructor may accept related course work or experimental learning in lieu of stated prerequisites.

*BIOL 10 - The Living World*

3 unit(s)

Provides students with an understanding of the most fundamental concepts of modern biology including ecology (the interaction between organisms and their environment), human inheritance, the structure and function of living organisms, evolution, strategies for survival and reproduction, and biotechnology.

*Satisfies B2: Life Science*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 20 - Ecological Biology*

3 unit(s)

Introduction to diversity, ecology, evolution and behavior. In conjunction with BIOL 21 a more complete survey of biology.

*Misc/Lab: Lecture 2 hours/lab 3 hours/field trips.*

*Satisfies B2B3: Life Science & Lab*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 21 - Human Biology*

3 unit(s)

Introduction to physiology, reproduction, development, heredity and aging. With BIOL 20 a more complete survey of biology.

*Misc/Lab: Lecture 2 hours/Lab 3 hours.*

*Satisfies B2B3: Life Science & Lab*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 30 - Principles of Biology I*

4 unit(s)

Cellular and physiological aspects of biological diversity. Concepts include: biomolecules, cellular structures/function, cell-cell communication, cellular energetics, molecular evolution, gene expression, enzymes, and animal physiological systems.

*Misc/Lab: Lecture 3 hours/Lab 3 hours.*

*Satisfies B2B3: Life Science & Lab*

**Prerequisite(s):** Writing Enrollment Group W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better; Math Enrollment Group M-I or M-II, or completion of a GE Area B4 course. Must be majoring in Biology (all), Biomedical Eng, Biochemistry, ENVS (all), Forensic Science (all), Nutritional Science, Meteorology-CS, Kinesiology, Computer Science, and Communicative Disorders.

**Grading:** Graded

*BIOL 31 - Principles of Biology II*

*4 unit(s)*

The diversity of life and the mechanisms by which that diversity has arisen. Concepts include: scientific method, origins of life, adaptation of organisms to different environments, ecology, and evolution.

*Lecture 3 hours/Lab 3 hours*

*Satisfies B1 + B3: Physical + Lab Science.*

**Prerequisite(s):** BIOL 30 (with a grade of "C-" or better for all Biology majors). Must be majoring in Biology (all), Biomedical Eng, Biochemistry, Forensic Science (all), Environmental Studies (all), Nutritional Science, Meteorology - Climate Science Concentration, Kinesiology, Computer Science, and Communicative Disorders.

**Grading:** Graded

*BIOL 54 - Human Understanding*

*3 unit(s)*

Major issues in health and disease, learning and memory, maturation and aging (such as diet, exercise, mind-body medicine, and addictions). Emphasis on learning how to understand and apply physiologic information for personal growth and lifelong learning.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*BIOL 55 - Biostatistics*

*3 unit(s)*

Introductory experimental design and statistical analysis of biological data from manipulated experiments. Experience in designing and analyzing experiments utilizing both univariate and multivariate tests.

*Lecture 2 hours/Lab 3 hours*

**Prerequisite(s):** BIOL 30 or BIOL 31 with a grade of C- or better, or instructor consent. Must be a declared Biology Major (all) or Environmental Studies Major (all).

**Grading:** Graded

*BIOL 65 - Human Anatomy*

*4 unit(s)*

Introductory study of gross and microscopic human anatomy including corresponding pathology. For majors in nursing and kinesiology.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B2B3: Life Science & Lab*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 65L - Anatomy Lab for Transfer Students*

*1 unit(s)*

Anatomy Lab for Transfer Students entering the Kinesiology or Occupational Therapy departments without adequate lab experience. Not an elective for Biology department majors.

*Misc/Lab: Lab 3 hours.*

*Satisfies B3: Laboratory Science*

**Prerequisite(s):** Restricted to Occupational Therapy and Kinesiology majors.

**Grading:** Graded

*BIOL 65O - Human Anatomy*

*4 unit(s)*

Introductory study of gross and microscopic human anatomy including corresponding pathology. For majors in nursing and kinesiology. This online anatomy course is not intended for students pursuing degrees in kinesiology, recreation (therapeutic recreation) or to meet the anatomy prerequisite for occupational therapy at SJSU. Students who intend to transfer the human anatomy course to another institution which requires an "in class" lab should enroll in BIOL 65.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B2B3: Life Science & Lab*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 66 - Human Physiology*

*5 unit(s)*

Explanation of physiological principles from the molecular and cellular-levels to organ systems. Neural and endocrine controls and integration among systems. Health care orientation.

*Misc/Lab: Lecture 3 hours/lab 3 hours/seminar 1 hour.*

*Satisfies B2B3: Life Science & Lab*

**Prerequisite(s):** High school algebra. Recommended: Human Anatomy, CHEM 30A.

**Grading:** Graded

**Note(s):** Not an elective in the major departments. A grade of "C" or better is required to receive B2 and B3 GE credit.



*BIOL 100W - Scientific Communication Workshop*

3 unit(s)

Analysis and communication of scientific research to both scientific and general audiences. Satisfies upper division writing requirement.

*Satisfies SJSU Studies Z: Written Communication II*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with grades of "C-" or better); A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; Satisfaction of Writing Skills Test or completion of ENGL 100A or LLD 100A with C or better; and upper division standing. Or Graduate level. Allowed Declared Majors: Biology (all). Or Graduate or Postbaccalaureate Level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment requirement (GWAR).

*BIOL 101 - Origins of Life*

3 unit(s)

Process of evolution, fossil evidence for life origins, and the place of humans in nature.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not an elective in the Biological Sciences Department majors.

*BIOL 105 - Principles of Developmental Biology*

3 unit(s)

Emphasis on human development. Other animal systems (fly, frog, chick, mouse) will also be studied to aid in understanding anatomical, physiological, genetic and molecular mechanisms operating during gametogenesis, fertilization, cleavage, gastrulation and organogenesis.

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), or instructor consent; BIOL 115 (with a grade of "C" or better). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 106 - Physiological Ecology*

3 unit(s)

Study of the interaction of an organism with its environment. Looking at both plants and animals, students examine how both structure and function interact to enable an organism to survive under particular environmental conditions.

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better); BIOL 100W; CHEM 8 or CHEM 112A and CHEM 112B (with a grade of "C-" or better), upper division standing, or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 106L - Physiological Ecology Lab*

1 unit(s)

Experimental labs that illustrate/demonstrate key physiological concepts of plant and animal adaptations to their environment, as discussed in the lecture section, BIOL 106 - Physiological Ecology.

3 hours lab.

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better); BIOL 100W; CHEM 8 or CHEM 112A and CHEM 112B (with a grade of "C-" or better), upper division standing, or instructor consent. Must be a declared Biology Major (all).

**Corequisite(s):** BIOL 106.

**Grading:** Graded

*BIOL 107 - Immunology*

3 unit(s)

Provides information about all areas of immunology with emphasis on the basic concepts of immune mechanisms of the acquired and innate immune systems. Uses the basic information to study immune disorders and the immune response to infectious agents.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 107L - Immunology Laboratory*

2 unit(s)

The experiments in this beginning immunology laboratory are designed to study both the innate and acquired immune systems. Experimentation into the formation, function and detection of antibodies provides students with skills in basic immunologic techniques. Flow cytometry is used in identification of immune cells as well as functional assays of complement mediated phagocytosis.

3 hour lab.

**Corequisite(s):** BIOL 107, or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 109 - Human Neuroanatomy and Physiology*

4 unit(s)

Gross and microscopic structure and function of the human nervous system. Introduction to experimental and clinical techniques.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** BIOL 65 or instructor consent

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 110 - Biodiversity and Biopolitics*

3 unit(s)

Application of ecological principles to the conservation of biodiversity and the management of ecosystems. Analysis of biological, economic, social and political interrelationships involved in conservation.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** Not an elective in the department majors (all). All of SJSU Studies courses require completion of the WST and upper division standing.

*BIOL 113 - Comparative Taxonomy*

3 unit(s)

Students gain the understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 114 - Functional Morphology*

3 unit(s)

Develops understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 115 - General Genetics*

4 unit(s)

Principles and methods of microbial, plant and animal genetics. Mendelism, cytogenetics, molecular genetics, mutation, quantitative genetics and genetic aspects of evolution.

*Lecture 3 hours/Discussion 1 hour.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), or instructor consent; CHEM 1A and CHEM 1B (with a grade of "C" or better in each). Must be a declared Biology or Chemistry Major (all).

**Grading:** Graded

*BIOL 116 - Molecular Genetics*

4 unit(s)

Molecular genetics of eukaryotes. Replication, repair, mutation, regulation of gene expression, gene organization and methods of recombinant DNA research.

**Prerequisite(s):** BIOL 115 or MICR 166, and CHEM 135 (all with a grade of "C" or better). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 116L - Genetics Laboratory*

3 unit(s)

Selected experiments to demonstrate genetic concepts using *Drosophila*, bacteria and other organisms. Techniques include those of classical, bacterial and molecular genetics.

*Lecture 1 hours/Lab 6 hours.*

**Prerequisite(s):** BIOL 115 or MICR 127 with a grade of "C" or better. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 117 - Human Genetics*

3 unit(s)

Mendelian traits, classical and molecular cytogenetics, DNA variation, sex determination, gene mapping, mutation, population genetics, multifactorial inheritance, genetic counseling and prenatal diagnosis.

**Prerequisite(s):** BIOL 115 (with a grade of "C" or better). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 118 - Evolutionary Genetics*

4 unit(s)

Principles of molecular and population genetics from an evolutionary perspective. Application of DNA analyses and other techniques to conservation biology, evolution, ecology and systematics.

*Lecture 3 hours/Seminar 1 hour.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each for Biology Majors). Must be a declared Biology or Chemistry Major (all).

**Grading:** Graded

*BIOL 119 - Neurogenetics*

3 unit(s)

Cellular and molecular neuroscience at the neuron, synapse and circuit level, including electrical and chemical signaling. Neurophysiology of development, maintenance and modification of neural circuits. Molecular genetics of neurological disorders such as autism, schizophrenia, Alzheimer's disease, and mood disorders.

**Prerequisite(s):** BIOL 115 (with a grade of "C" or better). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 122 - Bacterial Diversity*

2 unit(s)

Study of the characteristics and microecology of unusual prokaryotes. Molecular and traditional approaches will be discussed.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 122L - Bacterial Diversity Laboratory*

2 unit(s)

Laboratory techniques in bacterial diversity.

6 hours Lab

**Prerequisite(s):** MICR 101 (with grade of "C" or better) or Instructor Consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 123A - Bioinformatics I*

3 unit(s)

Introduction to the main public domain tools, databases and methods in bioinformatics. Analysis of algorithms behind the most successful tools, such as the local and global sequence alignment packages, and the underlying methods used in fragment assembly packages. Solution of complex biological questions requiring modification of standard code.

**Prerequisite(s):** BIOL 30 and BIOL 31, or CS 46A and CS 46B Allowed Declared Majors: Biology, Chemistry, Computer Science

**Grading:** Graded

*BIOL 123B - Bioinformatics II*

3 unit(s)

Computational methods used for searching, classifying, analyzing, and modeling protein sequences. Tools for analyzing DNA and RNA sequences. More advanced topics, such as genetic algorithms and simulated annealing, which can be used to address folding problems.

**Prerequisite(s):** CS 123A.

**Grading:** Graded

*BIOL 124 - Systems Physiology*

3 unit(s)

Physiology of organ systems with emphasis on the human. Neural & hormonal communication, muscle, cardiovascular, respiratory, urinary, digestive, endocrine, and reproductive physiology.

**Prerequisite(s):** BIOL 115; PHYS 2A, PHYS 2B ; CHEM 112A, CHEM 112B ; All courses with a "C or better". Must be a declared Biology Major (all).

**Corequisite(s):** BIOL 125 highly recommended.

**Grading:** Graded

*BIOL 125 - Systems Physiology Laboratory*

2 unit(s)

Selected lab units to demonstrate complex physiological mechanisms and the physiology of organ systems. Methods include animal experiments and physiological recording and stimulation.

Lab 6 hours.

**Prerequisite(s):** Must be a declared Biology Major (all).

**Pre/Corequisite(s):** BIOL 124 (with grade of "C-" or better), or instructor consent.

**Grading:** Graded

*BIOL 129 - Neuroscience*

3 unit(s)

Principles of brain organization and function underlying behavior. Topics include neuroanatomy and physiology of language, vision, sexual behavior, memory and abnormal behavior.

**Prerequisite(s):** Either PSYC 30 and 3 units of biology, or 9 units of biology.

**Grading:** Graded

**Note(s):** Not acceptable as an elective in the Biology major.

*BIOL 131 - Endocrine Physiology*

3 unit(s)

Emphasis on mammalian systems. Mechanisms of hormone action, secretion and physiological effects; hormone assay techniques.

**Prerequisite(s):** BIOL 124 (with grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 134 - Vertebrate Histology*

4 unit(s)

Light and electron microscopic structure of vertebrate tissues with consideration of related functions. Emphasis on the examination of human tissues including corresponding pathology.

Lecture 2 hours/Lab 6 hours.

**Prerequisite(s):** BIOL 124 (with grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 135A - Eukaryotic Cell and Molecular Biology I*

3 unit(s)

First semester of a year-long cell and molecular biology course. Topics include membrane structure, signal transduction, cytoskeletal structure, cell migration, and gene expression.

**Prerequisite(s):** BIOL 115; CHEM 112A, CHEM 112B, CHEM 135 (with a grade of "C" or better in each). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 135B - Eukaryotic Cell and Molecular Biology II*

3 unit(s)

BIOL 135B is the second semester of a year-long cell and molecular biology course. Topics covered include chromosome structure and maintenance, stem cell biology, cell death, and cancer biology.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** BIOL 115; BIOL 135A; BIOL 100W (with a grade of "C" or better in each). Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 135L - Molecular Cell Biology Lab*

3 unit(s)

Lab experience in nucleic acid and protein purification, enzyme assay, bacterial and mammalian cell culture, immunofluorescence, radioisotopic labeling, column chromatography, agarose and polyacrylamide gel electrophoresis, spectrophotometry, liquid scintillation counting, etc.

*Lecture 1 hour/Lab 6 hours.*

**Prerequisite(s):** BIOL 135A (with grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 136 - Vertebrate Neurophysiology*

3 unit(s)

Review of topics from the molecular to the organismal level. Chemical and electrotonic phenomena of membranes, neurochemistry, sensory transduction, information coding, neural control, and additional rotating topics.

**Prerequisite(s):** BIOL 124 (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 136L - Vertebrate Neurophysiology Laboratory*

1 unit(s)

Course-based undergraduate research experience using electrophysiological techniques to study nervous system function. Topics include chemical and electrotonic phenomena of membranes, information coding, and additional rotating topics.

*Lab 3 hours.*

**Prerequisite(s):** BIOL 124 with a C- or better.

**Corequisite(s):** BIOL 136. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 137 - Introduction to Principles of Toxicology*

3 unit(s)

Emphasis on basic principles of toxicology. Toxicity of several classes of compounds covered in depth. Focus on basic chemical principles and appropriate applications.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** BIOL 124; CHEM 112B (all with a grade of "C-" or better). Must be a declared Biology Major (all).  
**Grading:** Graded

*BIOL 138 - Stem Cell Biology*

3 unit(s)

Topics in the growing field of stem cell biology. Topics include: properties of embryonic and adult stem cells, use of stem cells in scientific research, regulation of stem cells, and invertebrate and vertebrate models of stem cell research.

**Prerequisite(s):** BIOL 115 with a C or better. Must be a declared Biology Major (all).  
**Grading:** Graded

*BIOL 139 - Cancer Biology*

3 unit(s)

Basic principles of cancer biology needed to gain an overall understanding of cellular and molecular events that lead to the formation and progression of cancer. Topics include normal and abnormal cell behaviors, the steps leading to the development of malignancy, in-depth discussions of specific cancers, such as breast, colon, and myeloid leukemias, and the development of diagnostic tools and therapies.

**Prerequisite(s):** BIOL 115 with a C or better, or instructor consent. Must be a declared Biology Major (all).  
**Grading:** Graded

*BIOL 140 - Human Sexuality*

3 unit(s)

Biological and sociocultural facets of human sexuality. Evolution and physiology of sex, reproductive biology/ethics and cross-cultural expression of sexual behavior.

*Satisfies SJSU Studies S: Self, Society & Equality in US*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.  
**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Not acceptable as an elective in the Biology major.

*BIOL 142 - Paleontology*

4 unit(s)

Study of the major groups of invertebrate fossils and their use in geological studies; principles of stratigraphy, including seismic stratigraphy.

*Misc/Lab: Lecture 2 hours/lab and field trips 3 hours.*

**Prerequisite(s):** GEOL 1 and GEOL 7.  
**Grading:** Graded



*BIOL 143 - Biogeography*

3 unit(s)

Examination of the patterns of biodiversity over space and through time. Using data and models from a variety of sources including botany, zoology, ecology, evolutionary biology, paleontology, and geology, effects of isolation, elevation, and latitude are examined to understand spatial patterns of biodiversity.

**Prerequisite(s):** BIOL 31 or equivalent (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 145 - Advanced Undergraduate Biology Seminar*

1-3 unit(s)

Undergraduate Seminar in Biology. May be taken concurrently with BIOL 145L. Course is repeatable for credit when content changes.

*Course is repeatable for up to 12 units.*

**Prerequisite(s):** Completion of nine (9) units of upper division majors' coursework. Instructor Consent. Must be a declared Biology Major (all).

**Grading:** Graded

**Note(s):** Course is repeatable for credit when content changes.

*BIOL 145L - Advanced Undergraduate Biology Lab*

1-2 unit(s)

Advanced undergraduate laboratory or field experience. May be taken concurrently with BIOL 145. Course is repeatable for credit when content changes.

*3 hours lab.*

*Course is repeatable for up to 12 units.*

**Prerequisite(s):** Completion of nine (9) units of upper division majors' coursework. Instructor Consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 150 - Field Studies in Natural History*

1-2 unit(s)

Field courses given on site, typically covering general ecology, botany, geology, zoology and specialized natural areas such as Baja California, Death Valley, seacoasts and mountains. Repeatable for up to a total of 3 units of credit when location or content changes.

*Satisfies B3: Laboratory Science*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*BIOL 155 - Hypothesis Testing*

3 unit(s)

Experimental design and statistical analysis of biological data from manipulative experiments. Experience in designing and analyzing experiments using t-tests, 1- and 2-way ANOVA, Randomized Block ANOVA, Nested ANOVA, Linear Regression and Tests of Independence.

Lecture 2 hours/Lab 3 hours.

**Prerequisite(s):** BIOL 30 and BIOL 31 (with grade of "C-" or better), or instructor consent. Must be a declared Biology or Environmental Studies Major (all).

**Grading:** Graded

*BIOL 156 - Ecological Sampling Design and Analyses*

3 unit(s)

Sampling design and statistical analysis of biological patterns. In this course, students design and execute a field experiment (one required weekend field trip) that incorporates multivariate measurements. Students analyze the data with Log Linear analysis, Logistic Regression, Principal Components Analysis, Canonical Correlation and various Regression techniques.

Lecture 2 hours/Lab 3 hours.

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better), or instructor consent. Must be a declared Biology or Environmental Studies or Business Majors (all).

**Grading:** Graded

*BIOL 159 - Integrative Biology*

3 unit(s)

Capstone course in the BA Biological Science degree. Critical reading of scientific literature, experimental design and scientific communication skills will be emphasized. Topics covered may vary for a given semester.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** BIOL 55 or BIOL 155 or equivalent biostatistics course; BIOL 115 or BIOL 118 and BIOL 100W (with grade of "C" or better); at least 6 units of upper division biology electives; senior standing. Allowed Declared Majors: Must be a declared Biology Major (all). Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*BIOL 160 - Ecology*

4 unit(s)

Factors that influence the distribution and abundance of organisms; some aspects of applied ecology.

Lecture 3 hours/Lab 3 hours.

*Satisfies SJSU Studies R: Earth & Environment for Biology Majors only.*

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C or better"); Allowed Declared Majors (Biology, Natural Science); Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted),

completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Pre/Corequisite(s):** BIOL 55 or BIOL 155 or BIOL 156 or equivalent Biostatistics course, or instructor consent.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*BIOL 163 - Conservation Biology*

3 unit(s)

Principles of conservation biology, including management for the preservation of biodiversity and maintenance of viable populations. Examples from plants and animals

**Prerequisite(s):** BIOL 113 or BIOL 114 (with grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 164 - Ecological Field Methods*

3 unit(s)

Techniques for evaluating and managing the abundance and diversity of plants and animals.

*Lecture 1 hour/Lab 6 hours.*

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 165 - Advanced Human Anatomy*

4 unit(s)

Study of human anatomy, including clinical correlations, for pre-professional students. Not open to student who have completed BIOL 065.

*Lecture 2 hours/Lab 6 hours.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), BIOL 115 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 167 - Cardiorespiratory Physiology*

3 unit(s)

Covers the normal anatomy and physiology of the cardiovascular and respiratory systems, as well as how they function following perturbations in homeostasis. Focuses on the mammalian system with some discussion of comparative physiology.

**Prerequisite(s):** BIOL 124 (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 168 - Reproductive Physiology*

3 unit(s)

Reproductive Physiology covers the anatomy and physiology of the reproductive system, as well as how deviations from the norm affect reproduction. Course focuses on the mammalian system with discussion of comparative physiology.

**Prerequisite(s):** BIOL 124 (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 170 - Cellular and Molecular Physiology*

3 unit(s)

Introduction to the structure and physiological function of cells. Topics include synthesis of cellular macromolecules such as DNA, RNA and proteins; internal cellular organization; biochemical reactions necessary for cell growth, death and cellular communication. Relevant pathophysiology examples of cellular dysfunction are presented.

**Prerequisite(s):** BIOL 124 (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 177 - Physiology for Engineers*

3 unit(s)

Structure and function of physiological systems and discussion of topics of particular importance to the design, development, construction and clinical application of biomedical devices. Practical laboratory application of technologies to monitor, repair, replace or augment physiological systems.

*Misc/Lab: Lecture 2 hour/Lab 3 hours.*

**Prerequisite(s):** BIOL 30, CHEM 1B, PHYS 50

**Grading:** Graded

*BIOL 178 - Integrative Physiology*

3 unit(s)

Integrative Physiology is the capstone course in the Systems Physiology concentration. The specific physiology topics covered may vary depending on the semester. Critical reading of scientific literature, experimental design and scientific communication skills will be emphasized.

*Satisfies SJSU Studies R: Earth & Environment for Biology Majors only*

**Prerequisite(s):** BIOL 100W and BIOL 115 (with a grade of "C" or better); BIOL 124 (with a grade of "C-" or better); at least one upper division systems physiology elective; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 180 - Individual Studies*

1-4 unit(s)

Undergraduate advanced lab or field work in special fields.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all). Not available to Open University Students.

**Grading:** Credit / No Credit

*BIOL 181 - Introduction to Health Care*

*1-3 unit(s)*

Participation and observation with a medical doctor, dentist, optometrist, pharmacist, or veterinarian in private practice, hospital or retail setting.

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all). Not available to Open University Students.

**Grading:** Credit / No Credit

**Note(s):** Hepatitis B or other vaccinations may be required in some settings.

*BIOL 182 - Tutor Assistant in Biology*

*1-2 unit(s)*

Supervised classroom or field experience as a tutor-assistant in experiments, demonstrations and discussion. Course may be repeated for credit.

*Repeatable for credit.*

**Prerequisite(s):** Sophomore or Upper division standing, instructor consent and appropriate academic background. Not available to Open University Students. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BIOL 184 - Directed Reading*

*1-4 unit(s)*

Assigned readings of selected books, journals and papers chosen to fill gaps in training or for contact with new fields. Evaluation through weekly reports and conferences.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Not available to Open University Students. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BIOL 186 - Senior Thesis*

*2-4 unit(s)*

Advanced library, laboratory or field research under the supervision of a faculty member, culminating in a senior thesis.

**Prerequisite(s):** Instructor consent. Not available to Open University Students. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BIOL 190 - Field Studies in Biology*

1-4 unit(s)

Field program involving planning and execution of a project. Course is repeatable for a maximum of 12 units.

*Course is repeatable for up to 12 units.*

**Prerequisite(s):** Instructor consent. Not available to Open University Students. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BIOL 193 - Microbiological Techniques*

1 unit(s)

Microbiological techniques for non-biologists.

**Prerequisite(s):** Upper division standing; lower division biology; or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 198 - Undergraduate Research*

0.5-4 unit(s)

Field or laboratory biological research under the direction of a faculty member.

*Course is repeatable for up to 8 units.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BIOL 201 - Graduate Seminar in Biological Sciences*

1 unit(s)

Seminar designed to introduce principles and topics in biological research. Mandatory during first semester of enrollment. Must be taken twice for credit.

*Course may be repeated for credit for up to 4 units.*

**Grading:** Graded

*BIOL 202 - Graduate Studies in Biology*

3 unit(s)

A seminar on current research and theory in the life sciences, emphasizing scientific writing and formal oral presentations.

*Misc/Lab: Lecture/seminar/discussion 5 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BIOL 202TA - Biotech Seminar: Biotech Products*

3 unit(s)

BIOL 202TA is a seminar course in which students develop professional skills in writing, speaking, literature review, and critical thinking. Assignments are targeted at developing expertise and knowledge useful in the biotechnology industry. BIOL 202TA focuses on biotechnology products.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Enrollment in the Master of Biotechnology Program.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BIOL 202TB - Biotech Seminar: Drug Development Process*

3 unit(s)

Biol 202 TB is a seminar course in which students develop their professional skills. Assignments are targeted at developing expertise and knowledge useful in the biotechnology industry. Biol 202TB focuses on the development of drugs and other biotechnology products.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Enrollment in the Master of Biotechnology Program.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*BIOL 202TC - Biotech Seminar: Biotech Business I*

2 unit(s)

BIOL 202TC is a seminar course in which students develop their professional skills. Assignments are targeted at developing expertise and knowledge useful in the biotechnology and pharmaceutical industries. BIOL 202TC focuses on the financial aspects of business development in biotechnology.

**Prerequisite(s):** Enrollment in the Master of Biotechnology Program.

**Grading:** Graded

*BIOL 202TD - Biotech Seminar: Biotech Business II*

2 unit(s)

Seminar course in which students develop their professional skills. Assignments target developing expertise and knowledge useful in the biotechnology and pharmaceutical industries. Focuses on business development in biotechnology and a team project in which students develop a business plan.

**Prerequisite(s):** BIOL 202TC or instructor consent

**Grading:** Graded

*BIOL 203 - Biology Teaching Forum*

3 unit(s)

Introduction to effective methods for teaching undergraduate biology laboratories, activities, seminars and/or lectures. Emphasis on pedagogy and application of best practices and strategies for teaching biology to a diverse audience. Course administration, student conduct and expectations, and assessment will also be covered.

**Prerequisite(s):** graduate standing or instructor consent

**Grading:** Graded

*BIOL 205 - Advanced Molecular Techniques*

4 unit(s)

Emphasizes the laboratory techniques of modern molecular biology. Depending on instructor, focus will be on animal, plant, yeast, bacterial or viral systems. Course is repeatable for credit if content changes.

*Misc/Lab: Lecture 2 hours/lab 6 hours.*

**Prerequisite(s):** BIOL 135L or instructor consent.

**Grading:** Graded

*BIOL 205T - Advanced Molecular Techniques for Biotechnology*

4 unit(s)

Emphasizes the laboratory techniques of modern molecular biology especially: report writing and communication of research results. Depending on instructor, focus will be on animal, plant, yeast, bacterial, or viral systems.

*Misc/Lab: Lecture 2 hours/lab 6 hours.*

**Prerequisite(s):** BIOL 135L and admission into the Master of Biotechnology program.

**Grading:** Graded

*BIOL 215 - Seminar in Advanced Genetics*

3 unit(s)

Selected topics of current interest in advanced genetics. Each semester will emphasize a particular field of genetics; e.g., molecular genetics, human genetics, developmental genetics, population genetics, etc.

**Grading:** Graded

*BIOL 218 - Evolution*

3 unit(s)

Integrated use of modern molecular techniques and classical evolutionary theory to address a broad array of questions in evolutionary biology.

**Prerequisite(s):** BIOL 115 and instructor consent.

**Grading:** Graded

*BIOL 220 - Science Communication*

3 unit(s)

This course will focus on learning to effectively present ongoing scientific research to a wide audience, with an emphasis on developing science communication skills, learning to place data within the context of a field, and



developing critical thinking skills.

**Pre/Corequisite(s):** BIOL 202

**Grading:** Graded

*BIOL 221T - Advanced Bioinformatics for Biotechnology*

4 unit(s)

Bioinformatics/computer applications to solve advanced problems in molecular and cell biology by manipulation and analysis of DNA, RNA, and protein sequences.

**Prerequisite(s):** BIOL 116 or either CHEM 130A, CHEM 135, or Chem 136 and admission into the Master of Biotechnology program.

**Grading:** Graded

*BIOL 227 - Advanced Physiology*

3 unit(s)

Integrated discussion of modern physiological techniques to address a broad array of questions in physiology. Each semester will emphasize a particular field of physiology.

**Prerequisite(s):** Graduate standing and completion of an upper division physiology course or instructor consent.

**Grading:** Graded

*BIOL 227T - Principles of Pharmacology*

3 unit(s)

Principles of pharmacology, especially as related to the pharmaceutical industry and clinical applications.

**Prerequisite(s):** BIOL 30 or equivalent; Physiology recommended

**Grading:** Graded

*BIOL 229T - Biotechnology Instrumentation*

3 unit(s)

Introduction to the principles of operation of common instruments used in the biotechnology and pharmaceutical industries. Includes understanding and experience with calibration, detection mechanisms, data output, trouble shooting and decision making process.

*Misc/Lab: Lecture 2 hours / Lab 3 hours.*

**Prerequisite(s):** Enrollment in the Master of Biotechnology program.

**Grading:** Graded

*BIOL 230 - Comparative Animal Physiology*

3 unit(s)

A seminar in the functional relationships of invertebrates and vertebrates. Evolutionary patterns and environmental adaptations are considered.

**Prerequisite(s):** An upper division course in physiology or instructor consent.

**Grading:** Graded

*BIOL 233 - Immunological Techniques*

3 unit(s)

Principles, concepts and mechanisms relative to serological and other immunological procedures and reactions with emphasis on practical applications.

*Misc/Lab: Lab 9 hours.*

**Prerequisite(s):** Upper division microbiology or cell biology, or organic chemistry and instructor consent.

**Grading:** Graded

*BIOL 233T - Immunological Techniques for Biotechnology*

3 unit(s)

Principles, concepts, and mechanisms relative to serological and other immunological procedures and reactions with emphasis on applications in the biotechnology industry.

**Prerequisite(s):** Immunology laboratory (grade "B" or better) or equivalent experience and admission to the Master of Biotechnology program.

**Grading:** Graded

*BIOL 242 - Advanced Paleontology*

4 unit(s)

The lecture portion of this course will be conducted as a seminar; students will read and discuss classic and important newer papers on macroevolutionary theory and paleobiology. In the lab portion of this course, students will use fossil samples to develop and test scientific hypotheses that will be part of a semester-long project.

*Misc/Lab: Lecture 4 hours/Lab 3 hours.*

**Prerequisite(s):** Suitable background in geology or evolutionary biology.

**Grading:** Graded

*BIOL 255E - Advanced Topics: Ecology and Evolution*

1-4 unit(s)

Advanced Topics: Ecology and Evolution is a rotating topics course; each offering will have different content. The purpose of the seminar is to help students develop a deeper understanding of specific aspects of ecology and evolution through thorough examination of primary scientific literature, discussion and presentations. Enrollment in at least 3 units of BIOL 255E is mandatory for the MS Biological Sciences: concentration in Ecology and Evolution program.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Graduate standing or Instructor consent

**Grading:** Graded

*BIOL 255L - Advanced Biology Laboratory*

1-4 unit(s)

Laboratory or field experience in advanced biology. Course is repeatable for credit when content changes.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** May be taken concurrent with any 255 seminar.

*BIOL 255M - Advanced Topics:Molecular & Microbiology*

*1-4 unit(s)*

Advanced study in molecular and microbiology. Course is repeatable for credit when content changes.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*BIOL 255P - Seminar in Advanced Biology: Physiology*

*1-4 unit(s)*

Advanced study in plant or animal physiology. Course is repeatable for credit when content changes.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** graduate standing or instructor consent

**Grading:** Graded

*BIOL 255T - Introduction to Stem Cell Techniques*

*4 unit(s)*

This laboratory/lecture course exposes students to the theoretical and practical aspects of contemporary stem cell techniques. Students will culture mouse embryonic stem cells on feeders and characterize them using immunofluorescence and flow cytometry, differentiate various lineages and observe genetic modifications. Students will prepare inducible pluripotent stem cells (iPS) from primary cells. This includes both the theoretical and practical aspects of applied stem cell in regenerative approaches as well as models of disease for research purposes. Students are expected to keep a laboratory notebook and document their experiments and results. Additionally, students will present scientific papers on recent topics in stem cell basic research, as published in scientific journals of recent year. The goal of this course will be to provide students with basic experience in methods used in stem cell laboratories, so that they can transition to an internship in a stem cell laboratory (although many of these techniques are applicable in a number of diverse fields), and to provide students with the most current stem cell topics while practicing effective presentation and evaluation skills.

**Grading:** Graded

*BIOL 256 - Advanced Experimental Design and Analysis*

*3 unit(s)*

Provides training in advanced statistical procedures and experimental designs for graduate-level research. The content is tailored to research needs of enrolled students. Includes sampling schemes, randomization analyses, complex ANOVA and multivariate analyses.

**Prerequisite(s):** Upper division statistics course; graduate standing.

**Grading:** Graded

*BIOL 280 - Individual Studies*

1-3 unit(s)

Graduate level research projects designed in conjunction with faculty advisor.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** Graduate standing and instructor consent. Not available to Open University Students.

**Grading:** Credit / No Credit

*BIOL 280T - Internship in the Biotechnology Industry*

2 unit(s)

A 8-10 week internship at a Bay Area biotechnology company in R&D, quality control, manufacturing, human resources, marketing, or sales.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Admission to the Master of Biotechnology program.

**Grading:** Credit/No Credit

*BIOL 281T - Individual Studies in Biotechnology*

1-4 unit(s)

Supervised, advanced work in specialized fields relevant to biotechnology.

**Prerequisite(s):** Admission to the Master of Biotechnology program; instructor consent and Program Director.

**Grading:** Graded

*BIOL 282C - Biotechnology Company Management*

3 unit(s)

Provides general management perspectives of biotechnological innovation; focuses on challenges of managing the development of new technologies, products, and processes in biotech sectors; examines management concepts, industry practices, and cases relevant to the biotechnology sector.

**Grading:** Graded

*BIOL 283T - Topics in Biotech Regulatory Affairs*

3 unit(s)

Introduction to laws regulating the pharmaceutical, biotechnology, medical device industries. Discussions of company organization; product development and commercialization; Good Manufacturing Practice.

*Misc/Lab: Lecture 3 hour/Activity 6 hours.*

**Prerequisite(s):** Admission to the Master of Biotechnology program and consent of the Program director.

**Grading:** Graded

*BIOL 284 - Master's Directed Reading*

1-3 unit(s)

Directed reading and discussion of biological literature and/or individualized preparation for culminating graduate experience. Not available to Open University Students.

**Prerequisite(s):** Graduate Standing in MA program; instructor consent

**Pre/Corequisite(s):** Graduate standing in MA program and instructor consent.

**Grading:** Mandatory CR/NC/RP

*BIOL 285 - Colloquium in Biological Sciences*

1 unit(s)

Meetings for the presentation and discussion of advanced studies in special fields including original work by the faculty, guest investigators and graduate students. Topics will vary from year to year.

**Grading:** Credit/No Credit

*BIOL 285T - Colloquium in Biotechnology*

1 unit(s)

Meetings for reporting, by written and oral presentations, progress through the MBT program.

**Prerequisite(s):** Admission to the Master of Biotechnology program.

**Grading:** Credit/No Credit

*BIOL 291A - Introduction to Molecular Diagnostics I*

3 unit(s)

Graduate level course which will include topics relevant to all tests and methods used to identify a disease or the predisposition for a disease through DNA, RNA, or protein analysis. Methods for isolation from human clinical samples.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*BIOL 291B - Introduction to Molecular Diagnostics II: Human Genetic Diseases and Detection*

3 unit(s)

Graduate level course which will include topics relevant to all tests and methods used to identify a disease or the predisposition for a disease through DNA or RNA analysis of human samples.

**Prerequisite(s):** BIOL 291A or Instructor Consent.

**Grading:** Graded

*BIOL 297 - Graduate Research*

1-4 unit(s)

Advanced graduate lab or field research projects designed in conjunction with faculty advisor. Repeatable for credit, up to 10 units can be applied towards the degree.

*Course is repeatable for up to 10 units.*

**Prerequisite(s):** Graduate Standing and Instructor Consent.

**Grading:** Mandatory CR/NC/RP

*BIOL 298 - MS Project Culminating Experience*

1 unit(s)

Culminating experience for MS Project Option, consisting of the development of a manuscript describing student's research and following journal guidelines for manuscript preparation, followed by a public seminar defending the research project.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** Admission to candidacy for the Master of Science degree

**Grading:** Mandatory CR/NC/RP

*BIOL 298M - MA Culminating Experience*

1 unit(s)

Advanced individual work toward program Plan B (Comprehensive Exam or Master's Project).

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Advancement to candidacy for the MA in Biological Sciences and graduate advisor approval.

**Grading:** Mandatory CR/NC/RP

*BIOL 298T - Internship in the Biotechnology Industry*

3 unit(s)

A 6-8 week internship at a Bay Area biotechnology company in research and development, quality control, manufacturing, human resources, marketing, or sales.

**Prerequisite(s):** Admission into the MS Biology, Concentration in Biotechnology. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*BIOL 299 - Master's Thesis*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the Master of Science degree.

**Pre/Corequisite(s):** Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*BIOL 888 - tess class association*

3 unit(s)

test class association

**Grading:** Graded

*BIOL 1290R - Culminating Experience Supervision*

1 unit(s)

This course covers the same topics and has the same objectives as BIOL 298/BIOL 298M/BIOL 299.

*Course is repeatable for up to 16 units.*

**Prerequisite(s):** Must have received an RP in BIOL 298/BIOL 298M/BIOL 299.

**Grading:** CR/NC, No Degree Credit.

**Note(s):** No Degree Credit.

*BOT 104 - Plant Taxonomy*

4 unit(s)

Taxonomic relations and classification of ferns, conifers and flowering plants, with practice in their collection and identification. Selected techniques of cytotaxonomy, chemotaxonomy, palynology and numerical taxonomy.

**Prerequisite(s):** Must be a declared Biology Major (all).

**Grading:** Graded

*BOT 113 - Comparative Taxonomy*

3 unit(s)

Students gain the understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BOT 114 - Functional Morphology*

3 unit(s)

Develops understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 115 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BOT 143 - Biogeography*

3 unit(s)

Examination of the patterns of biodiversity over space and through time. Using data and models from a variety of sources including botany, zoology, ecology, evolutionary biology, paleontology, and geology, effects of isolation, elevation, and latitude are examined to understand spatial patterns of biodiversity.

**Prerequisite(s):** BIOL 31 or equivalent (with a grade of "C-" or better), or instructor consent. Must be a declared

Biology Major (all).

**Grading:** Graded

*BOT 160 - Ecology*

4 unit(s)

Factors that influence the distribution and abundance of organisms; some aspects of applied ecology.

Lecture 3 hours/Lab 3 hours.

Satisfies SJSU Studies R: Earth & Environment for Biology Majors only.

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C or better"); Allowed Declared Majors (Biology, Natural Science); Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Pre/Corequisite(s):** BIOL 55 or BIOL 155 or BIOL 156 or equivalent Biostatistics course, or instructor consent.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*BOT 165 - Plant Communities of California*

4 unit(s)

Ecology, species composition and vegetation structure of California plant communities. Origins, history and changes brought about by natural succession and human impact.

Lecture 2 hours/Lab-Field 6 hours (some weekend field trips).

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*BOT 180 - Individual Studies*

1-4 unit(s)

Advanced work in special fields.

Repeatable for credit.

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BOT 186 - Senior Thesis*

2-4 unit(s)

Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*BOT 255 - Advanced Botany*



1-3 unit(s)

Advanced aspects of morphology, mycology and other fields of botany. Course may be repeated for credit with advisor consent.

**Prerequisite(s):** Specialization in botany and instructor consent.

**Grading:** Graded

*BOT 298 - Research*

1-4 unit(s)

Independent investigations.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*BOT 299 - Master's Thesis or Project*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

*ENT 101 - Insect Diversity*

4 unit(s)

Introduction to biology, ecology and behavior of insects. Ways in which insects affect humans and the environment. Students collect, curate and identify common families of insects.

*Lecture 3 hours/lab-field 3 hours.*

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better); CHEM 1A, CHEM 1B. Or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ENT 106 - Forensic Entomology*

3 unit(s)

Examines the science and methodology used to collect, analyze, and present information regarding insects and other arthropods that are important in legal investigations.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), or instructor consent. Must be a declared Biology or Forensic Science Major (all).

**Grading:** Graded

*ENT 113 - Comparative Taxonomy*

3 unit(s)

Students gain the understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ENT 114 - Functional Morphology*

*3 unit(s)*

Develops understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ENT 143 - Biogeography*

*3 unit(s)*

Examination of the patterns of biodiversity over space and through time. Using data and models from a variety of sources including botany, zoology, ecology, evolutionary biology, paleontology, and geology, effects of isolation, elevation, and latitude are examined to understand spatial patterns of biodiversity.

**Prerequisite(s):** BIOL 31 or equivalent (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ENT 180 - Individual Studies*

*1-4 unit(s)*

Advanced lab work in entomology.

*Course is repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*ENT 185 - Seminar in Entomology*

*1 unit(s)*

Current entomological literature and research and historical development of various entomological concepts.

**Prerequisite(s):** Must be a declared Biology Major (all).

**Grading:** Graded

*ENT 186 - Senior Thesis*

*2-4 unit(s)*

Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).  
**Grading:** Credit / No Credit

*ENT 281 - Advanced Laboratory Skills in Entomology*

3 unit(s)

Advanced lab work in entomology.

**Prerequisite(s):** MA graduate standing.  
**Grading:** Credit/No Credit

*ENT 282 - Entomology Internship*

3 unit(s)

Professional career development and/or individualized preparation for culminating graduate experience.

**Prerequisite(s):** Graduate standing.  
**Grading:** Credit/No Credit

*ENT 283 - Directed Readings in Entomology*

2 unit(s)

Directed reading assignments in entomological literature including but not limited to: research, governmental guidelines/protocols/procedures and risk assessment/management.

**Prerequisite(s):** MA graduate standing.  
**Grading:** Graded

*ENT 298 - Research*

1-4 unit(s)

Independent investigations.

**Prerequisite(s):** Instructor consent.  
**Grading:** Mandatory CR/NC/RP

*ENT 299 - Master's Thesis or Project*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree.  
**Grading:** Mandatory CR/NC/RP

*MICR 20 - General Bacteriology*

5 unit(s)

Morphology, physiology, genetics and diversity of bacteria; their control by chemical and physical means; and their role in disease. For majors in allied health professions.

*Misc/Lab: Lecture 4 hours/lab 3 hours.*

*Satisfies B2B3: Life Science & Lab*

**Prerequisite(s):** CHEM 1B, or CHEM 30A with a C or better or instructor consent.

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*MICR 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*MICR 101 - General Microbiology*

5 unit(s)

Fundamentals of basic microbiology emphasizing cell structure, cell metabolism, molecular genetics, microbial diversity and ecological relationships.

*Lab 6 hours; Lecture 3 hours.*

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each); CHEM 8 or CHEM 112A (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 122 - Bacterial Diversity*

2 unit(s)

Study of the characteristics and microecology of unusual prokaryotes. Molecular and traditional approaches will be discussed.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 122L - Bacterial Diversity Laboratory*

2 unit(s)

Laboratory techniques in bacterial diversity.

*6 hours Lab.*

**Prerequisite(s):** MICR 101 (with grade of "C" or better) or Instructor Consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 123 - Food Microbiology*

1 unit(s)

Detection and enumeration of both normal microbiological flora and spoilage organisms of specific foods. Control of sanitation problems in food production and processing.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 123L - Food Microbiology Laboratory*

2 unit(s)

Practical microbiological techniques for the detection and enumeration of both normal microbiological flora and spoilage organisms of specific foods; and for the control of sanitation problems in food production and processing. Field trips to local food industries and/or a water treatment plant may be required within lab hours.

6 hour Lab.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 127 - Microbial Physiology*

3 unit(s)

Studies of the physiology of microbes specifically focusing on bacteria (growth, metabolism and regulation of gene expression); growth experiments and mutagenesis techniques. SJSU Studies Area: R for Biology Majors only.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** CHEM 135, MICR 166, both with a C or better, or instructor consent. Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses.

**Pre/Corequisite(s):** BIOL 100W strongly recommended. Must be a declared Biology Major (all).

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing. Biological Sciences Majors only.

*MICR 127L - Microbial Physiology Laboratory*

2 unit(s)

Laboratory experiments involve small and large-scale growth experiments (fermentation, continuous culture and batch culture), techniques used in mutagenesis and mutant characterization as well as construction and studies of reporter fusions.

Lab 6 hours.

**Prerequisite(s):** MICR 101 (with grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 140 - Hematology*

3 unit(s)

Blood and blood forming organs. Theoretical and clinical aspects of normal and pathologic conditions of the erythrocytic, leukocytic, coagulation and blood group systems.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** MICR 101 (with grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 140L - Hematology Laboratory*

2 unit(s)

Laboratory methodologies used to diagnose hematologic pathology. Prerequisite(s): MICR 101 (with grade of "C" or better), or instructor consent.

Lab 6 hours.

**Pre/Corequisite(s):** MICR 140. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 141 - Pathogenic Microbiology I*

3 unit(s)

Concepts and principles of medical microbiology, emphasizing the biology of host-parasite interactions and mechanisms of infectious disease pathogenesis.

**Prerequisite(s):** MICR 101, BIOL 107 (with a grade of "C" or better in each); CHEM 112A or CHEM 8, (with a grade of "C" or better in each); or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 141L - Pathogenic Microbiology I Laboratory*

3 unit(s)

Application of principles of medical microbiology to pathogen isolation, characterization and identification.

Lab 9 hours.

**Prerequisite(s):** MICR 101, BIOL 107, BIOL 107L (with a grade of "C" or better in each); CHEM 8 or CHEM 112A (with a grade of "C" or better in each), or instructor consent.

**Corequisite(s):** MICR 141. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 142 - Pathogenic Microbiology II*

3 unit(s)

Concepts and principles of medical microbiology, emphasizing the biology of host-parasite interactions and mechanisms of infectious disease pathogenesis. Continuation of MICR 141.

Lecture 3 hours.

**Prerequisite(s):** MICR 141 (with grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 142L - Pathogenic Microbiology II Laboratory*

3 unit(s)

Application of principles of medical microbiology to pathogen isolation, characterization and identification.

Lab 9 hours.

**Prerequisite(s):** MICR 141 and MICR 141L and BIOL 107L (with grades of "C" or better in each), or instructor

consent.

**Corequisite(s):** MICR 142. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 166 - Bacterial Genetics*

4 unit(s)

Fundamental prokaryotic genetic concepts and their incorporation into problem solving and experimental design. Emphasis on how and why someone might use genetic approaches to their benefit when addressing biological questions in bacteria.

**Prerequisite(s):** MICR 101 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 170 - General Virology*

3 unit(s)

Molecular and biological aspects of animal, plant and microbial viruses and their relationships with their hosts.

**Prerequisite(s):** BIOL 30 and BIOL 31 (with a grade of "C-" or better in each), CHEM 8 or CHEM 112A (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*MICR 180 - Individual Studies*

1-4 unit(s)

Advanced lab work in special fields.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*MICR 184 - Directed Reading*

1-4 unit(s)

Assigned readings of selected books, journals and papers to fill gaps in training or for contact with new fields. Evaluation through weekly reports and conferences.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

*MICR 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*MICR 291A - Advanced Hematology*

4 unit(s)

Students will engage in advanced study of normal and abnormal hematologic conditions, including molecular diagnosis of disorders.

**Grading:** Credit/No Credit

*MICR 291B - Advanced Pathophysiology*

4 unit(s)

Students will engage in advanced study of normal and abnormal physiologic conditions, including but not limited to diseases of glucose metabolism, organ dysfunction, endocrine disorders and electrolyte balance.

**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 291C - Advanced Human Immunology*

4 unit(s)

Students will engage in advanced study of normal and abnormal immunologic conditions in humans, including molecular diagnosis of those disorders.

**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 291D - Advanced Medical Microbiology*

4 unit(s)

Students will engage in advanced study of bacteria, fungi, viruses and other organisms of significance in medical microbiology. Emphasis will be on experience through clinical practice.

**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 291E - Advanced Immunohematology*

4 unit(s)

Students will engage in advanced study of immunohematology and the use of transfused products in medical treatment. Emphasis will be on experience through clinical practice.

**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 291F - Molecular Based Diagnostic Techniques*

4 unit(s)

Students will engage in advanced study of application of molecular techniques for diagnostic purposes. Emphasis will be on advanced practical training.



**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 291G - Clinical Laboratory Management*

4 unit(s)

Students will engage in advanced study of laboratory management skills, including finance, time management, team building, quality control, basic human resources management and other topics. Emphasis will be on practical training.

**Grading:** Credit/No Credit

**Note(s):** Not an elective for Biology majors and not available to Open University students.

*MICR 292 - Topics and Demonstrations in Clinical Laboratory Science*

3 unit(s)

Presentations and demonstrations of topics and selected clinical lab procedures.

*Course may be repeated for credit for up to 36 units.*

**Prerequisite(s):** Baccalaureate degree in a biological science, valid license as a CLS Trainee, admission into the CLS Traineeship, and instructor consent. Concurrent enrollment in MICR 291.

**Grading:** Graded

*MICR 298 - Research*

1-4 unit(s)

Advanced individual work in a specialized field of microbiology.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*MICR 299 - Master's Thesis or Project*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the Master of Science degree and instructor consent.

**Grading:** Mandatory CR/NC/RP

*MICR 1291 - Field Work in Clinical Laboratory Science*

12 unit(s)

Fieldwork in affiliated hospital laboratories prerequisite to the California Licensing examination for Clinical Laboratory Science (CLS).

*Course may be repeated for credit for up to 36 units.*

**Prerequisite(s):** Baccalaureate degree in a biological science, valid license as a CLS Trainee, admission into the CLS Traineeship, and instructor consent. Concurrent enrollment in MICR 292.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*ZOOL 113 - Comparative Taxonomy*

3 unit(s)

Students gain the understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lab/Act: Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ZOOL 114 - Functional Morphology*

3 unit(s)

Develops understanding and skills needed to taxonomically study biodiversity, including the use of morphological and DNA sequence characters to examine phylogeny, and use of a range of biodiversity research techniques and tools.

*Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** BIOL 115 or BIOL 118 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ZOOL 115 - Invertebrate Zoology and Natural History*

4 unit(s)

The evolution, distribution, structure, natural history and systematics of invertebrates other than insects.

*Lecture 2 hours/lab-field trips 6 hours.*

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ZOOL 116 - Vertebrate Evolution and Natural History*

4 unit(s)

Origin, evolution, distribution and natural history of the vertebrates. Development, reproductive patterns, anatomy, morphology, behavior, ecology and systematics.

*Lecture 2 hours/lab 6 hours with several field trips.*

**Prerequisite(s):** BIOL 113 or BIOL 114 (with a grade of "C" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

*ZOOL 143 - Biogeography*

3 unit(s)

Examination of the patterns of biodiversity over space and through time. Using data and models from a variety of

sources including botany, zoology, ecology, evolutionary biology, paleontology, and geology, effects of isolation, elevation, and latitude are examined to understand spatial patterns of biodiversity.

**Prerequisite(s):** BIOL 31 or equivalent (with a grade of "C-" or better), or instructor consent. Must be a declared Biology Major (all).

**Grading:** Graded

#### *ZOOL 180 - Individual Studies*

1-4 unit(s)

Advanced lab work in special fields. Course is repeatable for credit.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

#### *ZOOL 186 - Senior Thesis*

2-4 unit(s)

Advanced laboratory or field research under supervision of faculty member, culminating in a senior thesis.

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Credit / No Credit

#### *ZOOL 298 - Research*

1-4 unit(s)

Independent investigations.

*Repeatable for credit.*

**Prerequisite(s):** Instructor consent. Must be a declared Biology Major (all).

**Grading:** Mandatory CR/NC/RP

#### *ZOOL 299 - Master's Thesis or Project*

1-4 unit(s)

*Repeatable for credit.*

**Prerequisite(s):** Admission to candidacy for the master's degree. Must be a declared Biology Major (all).

**Grading:** Mandatory CR/NC/RP

## Department of Chemistry

**Office:** Duncan Hall 518

**Telephone:** 408-924-5000

**Email:** chemoffice@sjsu.edu

**Website:** www.sjsu.edu/chemistry

### **Professors**

David J.R. Brook  
Lionel E. Cheruzel  
Daryl K. Eggers  
Resa M. Kelly  
Roy K. Okuda  
Karen A. Singmaster, Chair

### **Associate Professors**

Laura C. Miller Conrad  
Alberto A. Rascon, Jr.  
Roger H. Terrill  
Annalise Van Wyngarden

### **Assistant Professors**

Philip Dirlam  
Nicholas Esker  
Madalyn R. Radlauer  
Chester K. Simocko  
Ningkun Wang  
Abraham Wolcott

## **Overview**

Chemistry plays an integral role in solving everyday problems in areas such as energy production, pollution control and disease prevention. Our graduates go on to gain advanced degrees in chemistry, medicine, pharmacy and dentistry or enter the job market directly, building careers in the pharmaceutical, biotechnological, biomedical, energy and green technology sectors. We provide broad access, high quality education in the molecular sciences at both the bachelor's degree and master's degree levels. Undergraduates may specialize in biochemistry. Graduate degree candidates focus on analytical chemistry, biochemistry, inorganic, organic or physical chemistry. Our curriculum, taught by experts in each of the subfields of chemistry, supplements traditional classroom courses with hands-on laboratory and research instruction. For teaching purposes, as well as to support the department's research mission, we maintain a large collection of state-of-the-art instrumentation, including mass spectrometers, spectrophotometers and lasers.

## **Undergraduate Honors Program**

Student must be nominated by their research advisor and is selected for department honors by the Chemistry Department faculty. To be nominated chemistry majors need at least a 3.5 GPA in all chemistry course work required for the major and a minimum of two semesters of research by the time of graduation. The student would also have to submit, in electronic form, a written research report to support the nomination.

## **Non-Compliance with Safety Rules**

Failure to comply with proper procedures and prescribed safety cautions shall subject the student to removal from the laboratory and/or disciplinary action.

1. Any student who engages in unauthorized experimentation or who seriously disregards safety, thereby endangering self or others shall be withdrawn immediately from the class with a grade of "F".
2. Any student who shows persistent disregard for safety may have his or her grade lowered, and may risk being withdrawn with a final grade of "F".

## Prerequisites

To enroll in a Chemistry Course that has another Course as a prerequisite requires that a grade of "C or better" (C- not accepted) be earned in the prerequisite course. Exceptions may be made only with instructor consent or if not explicitly stated in the course description.

## Undergraduate

### Chemistry, BA

This program, offered by the Department of Chemistry, provides a fundamental chemistry background, while affording ample electives for developing a second specialty. The degree is designed for those wishing to work in scientific laboratories, or in fields allied to chemistry such as medicine, environmental monitoring, electronics, food processing, sales, pharmaceuticals, safety, literature search, or in a supervisory capacity in businesses dealing with chemical products.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements 38

Major Preparation 14

Major Requirements 52

University Electives 16

**Total 120**

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (14 units)

*PHYS 50 and PHYS 51 accepted for Transfers, in lieu of PHYS 2A/PHYS 2B.*

- MATH 30 - Calculus I 3 *unit(s)* (B4)  
MATH 30X may be used instead of MATH 30.
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHIL 133 - Ethics in Science 3 *unit(s)* (V)

### Major Requirements (52 units)

#### Core Courses (33 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- CHEM 100W - Writing Workshop: Chemical Communications 3 *unit(s)* (Z)
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 113B - Organic Chemistry Lab 3 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*
- CHEM 160 - Physical Chemistry 4 *unit(s)*

#### Approved Upper Division Chemistry Electives (19 units)

Students must complete at least three Upper Division lab courses, including at least one capstone course.

## Elective Lab Courses (4-6 units)

Complete two courses from:

- CHEM 131A - Biochemistry Lab 2 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 162L - Physical Chemistry Lab 2 *unit(s)*

## Capstone Course (3 units)

Complete one course from:

- CHEM 114 - Advanced Organic Chemistry Lab 3 *unit(s)*
- CHEM 131B - Biochemistry Lab 3 *unit(s)* (R)
- CHEM 146 - Physical-Inorganic Techniques 3 *unit(s)*

## Other Upper Division Chemistry Electives (10-12 units)

Complete 10-12 units from:

- CHEM 101 - Chemistry and the Computer 3 *unit(s)*
- CHEM 121S - Radiation Safety 1-2 *unit(s)*
- CHEM 130A - Biochemistry 4 *unit(s)* (CHEM 135 or CHEM 130A may count toward the degree.)
- CHEM 130B - Biochemistry 4 *unit(s)*
- CHEM 130C - Biochemistry 3 *unit(s)*
- CHEM 135 - General Biochemistry 4 *unit(s)* (CHEM 135 or CHEM 130A may count toward the degree.)
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 170A - Foundations of Macromolecular Chemistry 1 *unit(s)*
- CHEM 180 - Individual Studies 1-4 *unit(s)*
- CHEM 191 - Undergraduate Seminar 0.5 *unit(s)*
- CHEM 212 - Natural Products 3 *unit(s)*
- CHEM 213 - Organic Synthesis 3 *unit(s)*
- CHEM 236 - Biophysical Methods 3 *unit(s)*
- CHEM 237 - Bioinorganic Chemistry 3 *unit(s)*
- CHEM 245 - Advanced Inorganic Chemistry 3 *unit(s)*
- CHEM 250 - Current Topics in Analytical Chemistry 3 *unit(s)*

## University Electives (16 units)

*A minor is strongly recommended.*

## Total Units Required (120 units)

# Chemistry, Biochemistry Concentration, BS

The Biochemistry concentration, offered by the Department of Chemistry, is designed for students interested in graduate work in biochemistry, medicine or related fields, or for responsible positions in industrial or government laboratories.



- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	29
Major Preparation	33
Major Core Requirements	29
Concentration Requirements	29
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (29 units)

### Core Lower Division General Education (18 units)

Of the 39 units required by the university, 21 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (3 units)

Of the 9 units required by the university, 6 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (33 units)

- BIOL 30 - Principles of Biology I 4 *unit(s)* (B2+B3)
- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2B3)
- BIOL 115 - General Genetics 4 *unit(s)*
- ENGL 1B - Argument and Analysis 3 *unit(s)* (C2) (or equivalent.)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- PHIL 133 - Ethics in Science 3 *unit(s)* (V)

- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

## Major Requirements (58 units)

### Core Courses (29 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- CHEM 100W - Writing Workshop: Chemical Communications 3 *unit(s)* (Z)
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 113B - Organic Chemistry Lab 3 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*

### Biochemistry Concentration Required Courses (29 units)

- CHEM 130A - Biochemistry 4 *unit(s)*
- CHEM 130B - Biochemistry 4 *unit(s)*
- CHEM 130C - Biochemistry 3 *unit(s)*
- CHEM 131A - Biochemistry Lab 2 *unit(s)*
- CHEM 160 - Physical Chemistry 4 *unit(s)*

### Capstone Course (3 units)

- CHEM 131B - Biochemistry Lab 3 *unit(s)* (R)

### Science Electives (9 units)

Complete 9 units from:

- BIOL 107 - Immunology 3 *unit(s)*
- BIOL 107L - Immunology Laboratory 2 *unit(s)*
- BIOL 116 - Molecular Genetics 4 *unit(s)*
- BIOL 116L - Genetics Laboratory 3 *unit(s)*
- BIOL 117 - Human Genetics 3 *unit(s)*
- BIOL 118 - Evolutionary Genetics 4 *unit(s)*
- BIOL 119 - Neurogenetics 3 *unit(s)*
- BIOL 123A - Bioinformatics I 3 *unit(s)*
- BIOL 123B - Bioinformatics II 3 *unit(s)*
- BIOL 124 - Systems Physiology 3 *unit(s)*
- BIOL 125 - Systems Physiology Laboratory 2 *unit(s)*
- BIOL 135A - Eukaryotic Cell and Molecular Biology I 3 *unit(s)*
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 *unit(s)* (R)

- BIOL 135L - Molecular Cell Biology Lab 3 *unit(s)*
- BIOL 137 - Introduction to Principles of Toxicology 3 *unit(s)*
- BIOL 165 - Advanced Human Anatomy 4 *unit(s)*
- BIOL 170 - Cellular and Molecular Physiology 3 *unit(s)*
- CHEM 114 - Advanced Organic Chemistry Lab 3 *unit(s)*
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 162L - Physical Chemistry Lab 2 *unit(s)*
- CHEM 180 - Individual Studies 1-4 *unit(s)*
- MICR 101 - General Microbiology 5 *unit(s)*

Total Units Required (120 units)

## Chemistry, BS

This curriculum prepares students for graduate work in chemistry or for responsible positions in industrial or government laboratories. This degree, offered by the Department of Chemistry, meets all requirements for Certification by the American Chemical Society. It does not require a minor, although with judicious choice of electives, a minor may be obtained in biology, mathematics or physics.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	35
Major Preparation	25
Major Requirements	60
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### Prerequisite Requirements

Enrollment in any chemistry course requires that the prerequisite courses be passed with a grade of "C or better" (C- not accepted). Exceptions may be made only with instructor consent or if not explicitly stated in the course description. Refer to the SJSU Course Catalog for specific information regarding course prerequisites.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (15 units)

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements (except for 1 course in GE area C and 1 course in GE area D) and should follow the 60 unit guarantee roadmap (which include the missing GE in area C and D). Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

Complete one sequence from:

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (25 units)

- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (B1+B3)
- PHIL 133 - Ethics in Science 3 *unit(s)* (V)

## Major Requirements (60 units)

### Core Courses (29 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- CHEM 100W - Writing Workshop: Chemical Communications 3 *unit(s)* (Z)
- CHEM 112A - Organic Chemistry 3 *unit(s)*
- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 113B - Organic Chemistry Lab 3 *unit(s)*
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*

### Additional Required Courses (23 units)

- CHEM 101 - Chemistry and the Computer 3 *unit(s)*
- CHEM 130A - Biochemistry 4 *unit(s)*
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 161A - Physical Chemistry 3 *unit(s)*
- CHEM 161B - Physical Chemistry 3 *unit(s)*
- CHEM 162L - Physical Chemistry Lab 2 *unit(s)*
- CHEM 170A - Foundations of Macromolecular Chemistry 1 *unit(s)*

### Capstone Course (3 units)

- CHEM 146 - Physical-Inorganic Techniques 3 *unit(s)*

### Science Electives (5 units)

Complete five units from:

- ASTR 117A - Astrophysics I 3 *unit(s)*
- CHEM 114 - Advanced Organic Chemistry Lab 3 *unit(s)*
- CHEM 121S - Radiation Safety 1-2 *unit(s)*
- CHEM 131A - Biochemistry Lab 2 *unit(s)*
- CHEM 180 - Individual Studies 1-4 *unit(s)*

- CHEM 191 - Undergraduate Seminar *0.5 unit(s)*
- CHEM 212 - Natural Products *3 unit(s)*
- CHEM 213 - Organic Synthesis *3 unit(s)*
- CHEM 218 - Organotransition Metal Chemistry *3 unit(s)*
- CHEM 236 - Biophysical Methods *3 unit(s)*
- CHEM 245 - Advanced Inorganic Chemistry *3 unit(s)*
- CHEM 250 - Current Topics in Analytical Chemistry *3 unit(s)*
- MATH 112 - Vector Calculus *3 unit(s)*
- MATH 33LA - Differential Equations and Linear Algebra *3 unit(s)*
- MATH 39 - Linear Algebra I *3 unit(s)*
- MATH 33A - Ordinary Differential Equations for SCI & ENGR *3 unit(s)*
- MATH 138 - Complex Variables *3 unit(s)*
- MATH 161A - Applied Probability and Statistics I *3 unit(s)*
- PHYS 122 - Modern Physics *4 unit(s)*
- PHYS 130 - Mathematical Methods in Physics *4 unit(s)*
- PHYS 158 - Modern Optics *3 unit(s)*
- PHYS 160 - Thermodynamics and Statistical Physics *3 unit(s)*

Total Units Required (120 units)

## Master

### Chemistry, MA

The MA Chemistry degree is designed for persons who seek to augment and enhance their knowledge of chemistry beyond the bachelor's level. It is intended for (1) those who are interested in teaching chemistry at community colleges, (2) high school teachers who are currently certified and have teaching experience, (3) those who are interested in chemical sales, technical librarianship, and scientific writing, or (4) those who already have a significant amount of research experience. The MA degree is not recommended to those who wish to conduct or direct chemical research and have no previous research experience in the private sector.

For more information visit the Chemistry Department's Graduate Programs webpage.

## Admissions Requirements

The applicant must apply to and be admitted by both San José State University and the Department of Chemistry. Check the SJSU Graduate Admissions and Program Evaluations website (GAPE) and the Chemistry Department website for the most up-to-date instructions.

## Admission to the University

Applicants are admitted to the program by the Chemistry Department Graduate Advisor after they have been admitted to the graduate school by the university. University admission requirements include a bachelor's degree (or equivalent), a minimum 2.5 GPA, and good standing at the last college or university attended. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

## Admission to the Chemistry Department

The Chemistry Department requires that the bachelor's degree be in chemistry or an intimately related science (e.g., chemical physics, biochemistry, materials science). In all cases, however, incoming students must have had the equivalent of 40 semester units of undergraduate chemistry including at least 10 units of general chemistry, 10 units of organic chemistry, 4 units of analytical chemistry, and 4 units of physical chemistry. A grade point average of 3.0 or higher for the chemistry coursework is preferred. In addition, admission to the Chemistry MA program requires the general GRE and at least two, but preferably three, letters of recommendation.

## Admissions Status

Admission may be with graduate classified standing, which means that the student is deemed qualified to enroll in the graduate curriculum. In some cases, students are admitted with conditionally classified standing, which means that they must complete specified prerequisite work and/or graduate work with acceptable grades before they can be moved to classified status. Students with conditionally classified status should complete the conditions of their acceptance as early as possible. Such students may take graduate courses at the same time they are fulfilling the conditions. Prerequisite work is assigned for one or more of the following reasons: (1) low chemistry course GPA in undergraduate work, (2) insufficient number of undergraduate units in chemistry, or (3) lack of coursework in particular areas of study. In order to change from conditionally classified to classified standing, a student must (1) fulfill the conditions, and (2) obtain the Graduate Advisor's signature on the Change of Classification in Graduate Program form. Only students in classified standing may petition for advancement to candidacy, a requirement for graduation.

## Requirements for Advancement to Graduate Candidacy

After approximately two semesters of coursework and completion of a preliminary seminar based on a proposed, faculty-guided research project, students may apply for advancement to graduate candidacy for the MA degree. In addition, the student must have graduate classified status and must have completed CHEM 100W for the Graduation Writing Assessment Requirement (GWAR). The Preliminary Seminar Guidelines and Evaluation form may be found on the Chemistry Department Forms webpage. The 30-unit Proposed Graduate Degree Program is written by the Graduate Advisor in consultation with the student and entered on the Petition for Advancement to Graduate Candidacy to Graduate Candidacy Form 10.7.15.pdf form which must be approved and signed by both the student's Research Advisor and the Graduate Advisor. Students cannot enroll in CHEM 299 - Master's Thesis or apply for graduation until they are official candidates for a degree. See the Graduate Policies and Procedures section for further details regarding university requirements for advancement to candidacy for the master's degree.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.



# Program Graduation Requirements

Note that the coursework requirements for the MA degree differ from the requirements for MS degree in Chemistry. In addition to completing the 30 units of coursework listed on the approved candidacy form, an MA degree candidate in Chemistry must complete the following activities as part of his or her culminating experience:

## Final Seminar

All MA candidates are required to present a departmental seminar based on their research project. The seminar is scheduled through the faculty instructor for CHEM 285 and, therefore, must take place during the fall or spring semester.

## Final Oral Examination

All MA candidates are required to pass a Final Oral Examination based on the research project as detailed in the thesis. The Final Oral Examination is administered by the thesis committee, and the candidate must provide the committee with a copy of the thesis for review at least two weeks prior to the exam date. The final exam may be scheduled on the same date as the Final Seminar if the two-week thesis delivery requirement is met.

## Thesis (Plan A)

The MA thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Final Oral Examination and may request changes to the thesis before final approval. See the most current version of the SJSU Master's Thesis and Doctoral Dissertation Guidelines and the submission deadlines set by the College of Graduate Studies.

## Masters Requirements (30 units)

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR). *This requirement is satisfied in the core courses.*

### Core Courses (18 units)

- CHEM 100W - Writing Workshop: Chemical Communications 3 unit(s) (GWAR)  
*If CHEM 100W was completed for an undergraduate degree, three additional units of electives must be substituted*
- CHEM 120S - Chemical Safety Seminar 1 unit(s)
- CHEM 285 - Seminar 0.5 unit(s) (2 units required - complete course 4 times)
- CHEM 297 - MA Special Study 1-3 unit(s) (3 units required)
- Preliminary Seminar Presentation

### Electives (7 units)

- Any 200-level CHEM course or any 100-level CHEM course with graduate advisor consent; one of the electives must be an advanced chemistry laboratory course

### Culminating Experience (2 units) (Plan A only)

- CHEM 299 - Master's Thesis *1-6 unit(s) (2 units required)*

### Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Chemistry, MS

The MS Chemistry degree is designed for persons who seek greater competency in chemical research or for those who want an introduction to graduate work before starting a program for the PhD degree. Emphasis is placed upon, but not limited to, training in advanced laboratory techniques, operation of state-of-the-art instruments, data acquisition and interpretation, and strategies involved in designing and conducting research in chemistry.

For more information visit the Chemistry Department's Graduate Programs webpage.

## Admissions Requirements

The applicant must apply to and be admitted by both San José State University and the Chemistry Department. Check the SJSU Graduate Admissions and Program Evaluations website (GAPE) and the Chemistry Department website for the most up-to-date instructions.

### Admission to the University

Students are admitted to the program by the Chemistry Department Graduate Advisor after they have been admitted to the graduate school by the university. University admissions requirements include a bachelor's degree (or equivalent), a minimum 2.5 GPA, and good standing at the last college or university attended. Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage.

### Admission to the Chemistry Department

The Department of Chemistry requires further that the bachelor's degree be in chemistry or an intimately related science (e.g., chemical physics, biochemistry, or materials science). In all cases, however, incoming students must have had the equivalent of 40 semester units of undergraduate chemistry including at least 10 units of general chemistry, 10 units of organic chemistry, 4 units of analytical chemistry, and 4 units of physical chemistry. A grade point average of 3.0 or higher for the chemistry coursework is preferred. In addition, admission to Chemistry requires the general GRE examination and at least two, but preferably three, letters of recommendation.

## Admissions Status

Admission may be with graduate classified standing, which means that the student is deemed qualified to enroll in the graduate curriculum. In some cases, students are admitted with conditionally classified standing, which means that they must complete specified remedial work and/or graduate work with acceptable grades before they can be moved to classified status. Students with conditionally classified status should complete the conditions of their acceptance as early as possible. Such students may take graduate courses at the same time they are fulfilling the conditions.

Prerequisite work is assigned for one or more of the following reasons: 1) low chemistry course GPA in undergraduate work, 2) insufficient number of undergraduate units in chemistry, or 3) lack of coursework in particular areas of study. In order to change from conditionally classified to classified standing, a student must 1) fulfill the conditions, and 2) obtain the Graduate Advisor's signature on the Change of Classification in Graduate Program form. Only students in classified standing may petition for advancement to candidacy, a requirement for graduation.

## Requirements for Advancement to Graduate Candidacy

After approximately two semesters of coursework and completion of a preliminary seminar based on a proposed, faculty-guided research project, students may apply for advancement to graduate candidacy for the MS degree. In addition, the student must have graduate classified standing and must have completed CHEM 100W for the Graduation Writing Assessment Requirement (GWAR). The Preliminary Seminar Guidelines and Evaluation form may be found on the Chemistry Department Forms webpage. The 30-unit Proposed Graduate Degree Program is written by the Graduate Advisor in consultation with the student and entered on the Petition for Advancement to Graduate Candidacy form which must be approved and signed by both the student's Research Advisor and the Graduate Advisor. Students cannot enroll in CHEM 299 - Master's Thesis or apply for graduation until they are official candidates for a degree. See the Graduate Policies and Procedures section for further details regarding university requirements for advancement to candidacy for the master's degree.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Program Graduation Requirements

In addition to completing the 30 units of coursework listed on the approved Candidacy form, a MS degree candidate in Chemistry must complete the following activities as part of their culminating experience:

#### Final Seminar

All MS candidates are required to present a departmental seminar based on their research project. The seminar is scheduled through the faculty instructor for CHEM 285 and, therefore, must take place during the fall or spring semester.

## Final Oral Examination

All MS candidates are required to pass a Final Oral Examination based on the research project as detailed in the thesis. The Final Oral Examination is administered by the thesis committee, and the candidate must provide the committee with a copy of the thesis for review at least two weeks prior to the exam date. The Final Oral Examination may be scheduled on the same date as the Final Seminar if the two-week thesis delivery requirement is met.

## Thesis (Plan A)

The MS thesis document must be approved by the student's thesis research committee before submission. Typically, the thesis committee will provide the candidate feedback during the Final Oral Examination and may request changes to the thesis before final approval. See the most current version of the SJSU Master's Thesis and Doctoral Dissertation Guidelines and the submission deadlines set by the College of Graduate Studies.

## Masters Requirements (30 units)

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR). *This requirement is satisfied in the core courses.*

### Core Courses (19-25 units)

- CHEM 100W - Writing Workshop: Chemical Communications 3 unit(s)  
*If COMM 100W was completed for an undergraduate degree, three additional units of electives must be substituted.*
- CHEM 120S - Chemical Safety Seminar 1 unit(s)
- CHEM 285 - Seminar 0.5 unit(s) (2 units required - complete course 4 times)
- CHEM 298 - Research 1-6 unit(s) (4 units minimum required; 10 units maximum)
- CHEM 200-Level Courses 9 unit(s)
- Preliminary Seminar Presentation

### Electives (3-9 units)

Any 200-level CHEM course or any 100-level CHEM course

From the following list with graduate advisor consent.

- CHEM 101 - Chemistry and the Computer 3 unit(s)
- CHEM 114 - Advanced Organic Chemistry Lab 3 unit(s)
- CHEM 121S - Radiation Safety 1-2 unit(s)
- CHEM 126 - Introduction to Nuclear Science 3 unit(s)
- CHEM 127 - Nuclear Science Lab 3 unit(s)
- CHEM 130A - Biochemistry 4 unit(s)
- CHEM 130B - Biochemistry 4 unit(s)
- CHEM 130C - Biochemistry 3 unit(s)
- CHEM 131A - Biochemistry Lab 2 unit(s)

- CHEM 135 - General Biochemistry 4 *unit(s)*
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 146 - Physical-Inorganic Techniques 3 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 173 - Polymer Chemistry 3 *unit(s)*

### Culminating Experience (Plan A Only) (2 units)

- CHEM 299 - Master's Thesis 1-6 *unit(s)*
- Department Seminar Presentation
- Oral Examination

### Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Chemistry Minor

Courses prerequisite to all chemistry courses must be passed with a grade of "C" or better ("C-" not accepted).

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (23 units)

#### Core Courses (11 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 120S - Chemical Safety Seminar 1 *unit(s)*

#### Approved Upper Division Chemistry Electives (12 units)

Approved courses from at least two areas beyond general chemistry, chosen from analytical chemistry, biochemistry, inorganic chemistry, organic chemistry and physical chemistry (including at least one lab course; minimum of six units must be upper division courses and can include CHEM 120S)

- CHEM 55 - Quantitative Analysis 2 *unit(s)*
- CHEM 55L - Quantitative Analysis Laboratory 2 *unit(s)*
- CHEM 112A - Organic Chemistry 3 *unit(s)*

- CHEM 112B - Organic Chemistry 3 *unit(s)*
- CHEM 113A - Organic Chemistry Lab 2 *unit(s)*
- CHEM 130A - Biochemistry 4 *unit(s)*
- CHEM 130B - Biochemistry 4 *unit(s)*
- CHEM 131A - Biochemistry Lab 2 *unit(s)*
- CHEM 135 - General Biochemistry 4 *unit(s)*
- CHEM 145 - Inorganic Chemistry 3 *unit(s)*
- CHEM 155 - Instrumental Analysis 4 *unit(s)*
- CHEM 160 - Physical Chemistry 4 *unit(s)*
- CHEM 161A - Physical Chemistry 3 *unit(s)*
- CHEM 161B - Physical Chemistry 3 *unit(s)*
- CHEM 162L - Physical Chemistry Lab 2 *unit(s)*

## Total Units Required (23 units)

### *CHEM 1A - General Chemistry*

5 *unit(s)*

Topics including stoichiometry, reactions, atomic structure, periodicity, bonding, states of matter, energy changes, solutions using organic and inorganic examples. Lab program complements lecture.

*Misc/Lab: Lecture 3 hours/lecture 1 hour/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Prerequisite(s):** Proficiency in high school chemistry or CHEM 10 (with a grade of "C" or better; "C-" not accepted) or instructor consent; proficiency in high school algebra and eligibility for MATH 19; Writing Enrollment Group W-I or W-II, or ENGL 1AF with a grade of CR, or ENGL 1A with a grade of C- or better.

**Grading:** Graded

### *CHEM 1B - General Chemistry*

5 *unit(s)*

Topics including stoichiometry, colligative properties, kinetics, equilibria, thermodynamics and electrochemistry. Lab program complements lecture.

*Misc/Lab: Lecture 3 hours/lab*

*Satisfies B1 + B3: Physical + Lab Science*

**Prerequisite(s):** CHEM 1A (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

### *CHEM 8 - Organic Chemistry*

3 *unit(s)*

Introduction to the chemistry of carbon compounds for allied health majors and others requiring only 3 units of organic chemistry lecture.

**Prerequisite(s):** CHEM 1B (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** CHEM 008 is not a satisfactory prerequisite for CHEM 112B. No credit toward Chemistry major or minor.

*CHEM 9 - Organic Chemistry Lab*

1 unit(s)

Organic chemistry laboratory for allied health majors and others requiring only 1 unit of organic chemistry lab.

*Misc/Lab: Lab 3 hours.*

**Pre/Corequisite(s):** CHEM 8.

**Grading:** Graded

**Note(s):** No credit toward Chemistry major or minor.

*CHEM 10 - Chemical Calculations and Concepts*

3 unit(s)

Fundamental concepts in chemistry and problems in chemical symbolism and calculations. For students wishing to continue in chemistry, but lacking prerequisites for CHEM 1A.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** One year high school algebra.

**Grading:** Graded

**Note(s):** No credit towards chemistry major or minor.

*CHEM 30A - Introductory Chemistry*

3 unit(s)

The physical world as seen by a chemist; the ways this world affects humans, other animals and plants used as illustrations of fundamental general chemistry.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Grading:** Graded

**Note(s):** No credit toward Chemistry major or minor.

*CHEM 30B - Introductory Chemistry*

3 unit(s)

Organic compounds produced both in nature and artificially and the reactions they undergo, particularly in the human.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** CHEM 30A or CHEM 1A (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** No credit toward Chemistry major or minor.

*CHEM 55 - Quantitative Analysis*

2 unit(s)

Introduction to theories and techniques of chemical analysis.

**Prerequisite(s):** CHEM 1B (with a grade of "C" or better; "C-" not accepted)

**Grading:** Graded

*CHEM 55L - Quantitative Analysis Laboratory*

2 unit(s)

Introduction to chemical analysis techniques.

*Misc/Lab: Lab 6 hours.*

**Pre/Corequisite(s):** CHEM 55

**Grading:** Graded

*CHEM 90 - Problem Solving for Chemistry*

1 unit(s)

Supplemental course taken simultaneously with lower division chemistry lecture courses. Techniques for studying and problem solving emphasis. Preparation and active participation expected. Consult schedule of classes for current offering(s).

**Grading:** Credit/No Credit

**Note(s):** No credit toward chemistry major or minor.

*CHEM 92 - Int'l Prgm Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*CHEM 100W - Writing Workshop: Chemical Communications*

3 unit(s)

Improvement of skills in scientific writing and speaking. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** CHEM 55 or CHEM 112A (with grades of "C" or better; "C-" not accepted). A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Allowed Declared Majors: Chemistry, Biochemistry. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with "C or better" to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*CHEM 101 - Chemistry and the Computer*



3 unit(s)

Analysis of chemical problems. Spreadsheets, mathematical software packages, computer programming, computational chemistry methods.

*Misc/Lab: Lecture 2 hours/activity 2 hours.*

**Prerequisite(s):** CHEM 55 and MATH 30 or MATH 30P or MATH 30PL or MATH 30X (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 112A - Organic Chemistry*

3 unit(s)

Chemistry of the carbon compounds, both aliphatic and aromatic, emphasizing underlying concepts.

**Prerequisite(s):** CHEM 1B (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 112B - Organic Chemistry*

3 unit(s)

Continuation of CHEM 112A.

**Prerequisite(s):** CHEM 112A (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 113A - Organic Chemistry Lab*

2 unit(s)

Fundamental techniques for the isolation, characterization and synthesis of organic compounds.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** CHEM 112A (with a grade of "C" or better; "C-" not accepted). Chemistry, Biology, Forensic Science-Chemistry, Forensic Science-Biology, Biomedical Engineering and Chemical Engineering majors only, all others by department consent.

**Grading:** Graded

*CHEM 113B - Organic Chemistry Lab*

3 unit(s)

Continuation of CHEM 113A including more advanced work.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** CHEM 113A (with a grade of "C" or better; "C-" not accepted). Chemistry majors only or instructor consent.

**Pre/Corequisite(s):** CHEM 112B.

**Grading:** Graded

*CHEM 114 - Advanced Organic Chemistry Lab*

3 unit(s)

A capstone course on special topics in laboratory experiments utilizing modern chemical, physical and spectrometric methods. A grade of "C" or better is required for majors.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** CHEM 55, CHEM 100W, CHEM 112B and CHEM 113B (with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 118 - Special Topics in Organic Chemistry*

1 unit(s)

Introduction to a wide range of subjects typically missing from the traditional organic chemistry sequence (CHEM 112A and CHEM 112B, CHEM 113A and CHEM 113B). Consult schedule of classes for current offering(s).

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** CHEM 112B (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 120S - Chemical Safety Seminar*

1 unit(s)

Safety protocol appropriate to working with hazardous chemicals. Physical nature of hazards, biological effects, permissible exposures, safety precaution techniques. OSHA requirements.

**Prerequisite(s):** College level chemistry course. Upper division standing.

**Grading:** Credit/No Credit

*CHEM 121S - Radiation Safety*

1-2 unit(s)

Health hazards involved in working with radioactive substances. Physical nature of hazards, biological effects, standards of permissible exposures, safety precautions and protection techniques. Two units meet State of California recommendations.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*CHEM 126 - Introduction to Nuclear Science*

3 unit(s)

Properties of the atomic nucleus. Applications of nuclear science in biology, chemistry, engineering, geology and physics.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*CHEM 127 - Nuclear Science Lab*

3 unit(s)

Basic techniques and procedures used in nuclear science. Nuclear decay, nuclear reactions, radiation detection and measurements, nuclear analytical methods and tracer techniques.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** NUCS 121S, CHEM 100W and CHEM 126 (with grades of "C" or better; "C-" not accepted); or instructor consent.

**Grading:** ABC-/NC Grading

*CHEM 130A - Biochemistry*

4 unit(s)

Chemistry of amino acids, carbohydrates, lipids and nucleotides. Studies of protein structure and function, protein isolation, enzyme kinetics and enzyme mechanisms.

**Prerequisite(s):** CHEM 112B (with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** CHEM 130A and CHEM 135 cannot both be applied towards a chemistry major or a chemistry minor.

*CHEM 130B - Biochemistry*

4 unit(s)

Continuation of CHEM 130A, Concepts of bioenergetics; biochemical pathways of degradation and synthesis; metabolic regulation.

**Prerequisite(s):** CHEM 130A and BIOL 30 (with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 130C - Biochemistry*

3 unit(s)

Advanced biochemical topics selected from the fields of immunology, physiology, molecular and cell biology.

**Prerequisite(s):** CHEM 130A and BIOL 30 (with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 131A - Biochemistry Lab*

2 unit(s)

Fundamental qualitative and quantitative techniques and methodology in modern biochemistry.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** CHEM 55, CHEM 55L and CHEM 113A (with a grade of "C" or better; "C-" not accepted).

**Pre/Corequisite(s):** CHEM 130A.

**Grading:** Graded

*CHEM 131B - Biochemistry Lab*

3 unit(s)

A capstone course on advanced isolation techniques and enzyme methodology. A continuation of CHEM 131A. A grade of "C" or better is required for majors.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** CHEM 100W, CHEM 130A, CHEM 131A (with grades of "C" or better; "C-" not accepted).

**Pre/Corequisite(s):** CHEM 130B or CHEM 130C.

**Grading:** Graded

*CHEM 132 - Introductory Biochemistry*

4 unit(s)

Cellular and nutritional biochemistry for those who do not plan to continue in biochemistry, such as nutritional science and other science majors.

**Prerequisite(s):** CHEM 30B or CHEM 8 (with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** No credit toward Chemistry major or minor.

*CHEM 132L - Introductory Biochemistry Lab*

1 unit(s)

Lab work associated with chemistry of foods and nutrition, cellular metabolism, biomacromolecules, vitamins and the structure of carbohydrates, lipids, proteins and nucleic acids.

*Misc/Lab: Lab 3 hours.*

**Prerequisite(s):** CHEM 30B or CHEM 8 (with a grade of "C" or better, "C-" not accepted).

**Pre/Corequisite(s):** CHEM 132.

**Grading:** Graded

**Note(s):** No credit toward Chemistry major or minor.

*CHEM 135 - General Biochemistry*

4 unit(s)

Survey course on structure/function of biological molecules such as amino acids, proteins including enzymes, lipids/membranes, carbohydrates, and nucleic. Course topics include intermediary metabolism, regulation, and molecular biology.

**Prerequisite(s):** BIOL 30, CHEM 112A, CHEM 112B (with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** CHEM 135 and CHEM 130A cannot both be applied toward a chemistry major or a chemistry minor.

*CHEM 145 - Inorganic Chemistry*

3 unit(s)

Development of unifying principles to understand the chemistry of the elements. An introduction to the chemistry,

bonding theories and applications of coordination compounds.

**Prerequisite(s):** CHEM 112B (with grade of "C" or better; "C-" not accepted).

**Corequisite(s):** CHEM 113A (with grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 146 - Physical-Inorganic Techniques*

3 unit(s)

Application of advanced instrumental and preparative techniques to the study of structure, reactivity and spectroscopy of inorganic and organic substances including materials. This is a capstone course. A grade of "C" or better is required for majors.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** CHEM 100W, CHEM 101, CHEM 145, CHEM 161A (with grades of "C" or better; "C-" not accepted) or instructor consent.

**Pre/Corequisite(s):** CHEM 155

**Grading:** Graded

*CHEM 155 - Instrumental Analysis*

4 unit(s)

Principles and practices in the use of instrumental methods in chemical analysis. Basic physical chemistry necessary to understand the operation and limitations of the instruments.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** CHEM 100W, CHEM 160 or CHEM 161A (with grades of "C" or better, "C-" not accepted).

**Grading:** Graded

*CHEM 159 - Advanced Analytical Chemistry*

1-2 unit(s)

A lecture and problem course which considers advanced topics in chemical analysis. Consult schedule of classes for current offering(s).

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

**Note(s):** A total of 6 units may apply toward degree.

*CHEM 160 - Physical Chemistry*

4 unit(s)

Introduction to the fundamental principles of physical chemistry. Thermodynamics, kinetics, quantum mechanics and spectroscopy.

**Prerequisite(s):** CHEM 55, PHYS 2B, and MATH 30 or MATH 30X (all with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 161A - Physical Chemistry*

3 unit(s)

Principles of classical physical chemistry. Chemical thermodynamics, kinetics and electrochemistry.

**Prerequisite(s):** CHEM 55 (or CHEM 1B and upper division standing for engineering majors), PHYS 50, and MATH 32 or MATH 32X (all with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 161B - Physical Chemistry*

3 unit(s)

Principles of modern physical chemistry. Quantum chemistry, spectroscopy and statistical mechanics.

**Prerequisite(s):** CHEM 161A and PHYS 52 (with grades of "C" or better; "C-" not accepted). Upper division standing.

**Grading:** Graded

*CHEM 162L - Physical Chemistry Lab*

2 unit(s)

Physical chemical measurements with data analysis and written reports.

*Misc/Lab: Lab 6 hours.*

**Prerequisite(s):** CHEM 100W or ENGR 100W; CHEM 161A or CHEM 160 (all prerequisites with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** If using CHEM 161A as a prerequisite, it requires either CHEM 161B or CHE 158 as a co-requisite.

*CHEM 170A - Foundations of Macromolecular Chemistry*

1 unit(s)

Introduction to macromolecular, supramolecular, mesoscale and nanoscale systems and the principles that govern them including preparation, characterization and physical properties.

**Prerequisite(s):** CHEM 112B with grade of "C" or better (C- not accepted)

**Grading:** Graded

*CHEM 172 - Chemistry of Wine*

1 unit(s)

Introduction to chemistry of important components (organic acids, pigments, tannins, flavor constituents, etc.) of grape wine. Chemical changes that occur during fermentation, maturation and aging.

**Prerequisite(s):** CHEM 1B (with a grade of "C" or better; "C-" not accepted) or instructor consent.

**Grading:** Graded

*CHEM 173 - Polymer Chemistry*

3 unit(s)

Chemistry of polymeric substances, both natural and synthetic, emphasizing polymers of current interest.

**Prerequisite(s):** CHEM 112B (with a grade of "C" or better; "C-" not accepted) or instructor consent.  
**Grading:** Graded

*CHEM 180 - Individual Studies*

1-4 unit(s)

Advanced supervised lab work. Work and results described in written and oral reports as required by instructor. An honors course.

**Prerequisite(s):** CHEM 120S, instructor consent and "B" average. Not available to Open University Students  
**Grading:** Credit/No Credit

*CHEM 184 - Directed Reading*

1-3 unit(s)

Assigned readings of selected books, journals and papers to fill gaps in training or for contact with new fields. Regular conferences with instructor. Written report required. An honors course.

**Prerequisite(s):** Instructor consent and CHEM 55. Not available to Open University Students  
**Grading:** Credit/No Credit

*CHEM 190 - Introduction to Research*

1 unit(s)

Supplemental course taken simultaneously with lower and upper division chemistry lecture courses. Foundational techniques for doing research. Preparation and active participation expected.

**Grading:** Graded

*CHEM 191 - Undergraduate Seminar*

0.5 unit(s)

Problem solving and presentation of topics within specialized sub-areas of chemistry by students, faculty and guests. A total of 2 units may be repeated.

*Course may be repeated for credit for up to 2 units.*

**Prerequisite(s):** CHEM 1B.  
**Grading:** Credit/No Credit

*CHEM 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*CHEM 199 - Senior Thesis or Project*

1 unit(s)

**Prerequisite(s):** Minimum of 2 units of CHEM 180 or CHEM 184, instructor consent and CHEM 100W. Not available to Open University Students  
**Grading:** Credit/No Credit

*CHEM 201 - Graduate Studies in Chemistry*

1 unit(s)

Principles and topics in contemporary chemical research. Open to senior undergraduates with instructor consent.

**Grading:** Credit/No Credit

*CHEM 212 - Natural Products*

3 unit(s)

Topics from the structure proof, synthesis and biosynthesis of secondary metabolites.

**Prerequisite(s):** CHEM 114 (or equivalent with a grade of "C" or better; "C-" not accepted) or other advanced organic course.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 213 - Organic Synthesis*

3 unit(s)

Synthetic methods and their application to multistep organic syntheses. Emphasis will be placed on synthetic strategy and a mechanistic understanding of synthetic reactions.

**Prerequisite(s):** CHEM 112B (or equivalent with a grade of "C" or better; "C-" not accepted). Alternate years 3 units.

**Grading:** Graded

*CHEM 216 - Physical Organic Chemistry*

3 unit(s)

Application of molecular orbital theory to organic chemistry and related topics.

**Prerequisite(s):** CHEM 112B and CHEM 161B (or equivalents with grades of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 218 - Organotransition Metal Chemistry*

3 unit(s)

Structure and reaction chemistry of compounds which contain transition metal-carbon bonds. Applications to catalytic processes and to organic synthesis.

**Prerequisite(s):** CHEM 112B and CHEM 145 (or equivalents with grades of "C" or better; "C-" not accepted) or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 231 - Advanced Biochemistry*



3 unit(s)

Chemistry of the amino acids, peptides and proteins, the chemistry of enzyme action and introduction to the metabolism of amino acids and related compounds.

**Prerequisite(s):** CHEM 130B or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 232 - Nucleic Acids*

3 unit(s)

Topics include structural features of DNA and RNA, protein-DNA or RNA interactions, chemical and enzymatic basis for gene expression, and recombinant DNA methods.

**Prerequisite(s):** CHEM 130C or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 234 - Enzymology*

3 unit(s)

Enzyme structure, function, classification, isolation and methodology, mechanisms, theory of catalysis, enzyme kinetics, pH effects, allosterism and regulation.

**Prerequisite(s):** CHEM 130B or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 236 - Biophysical Methods*

3 unit(s)

Advanced lectures on theory and methodology of biophysical measurements. Topics selected from spectroscopic, electromigration and hydrodynamic methods. Practice, limitations and data reduction procedures for each method examined.

**Prerequisite(s):** CHEM 130A or CHEM 135 (or equivalent with a grade of "C" or better; "C-" not accepted) or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 237 - Bioinorganic Chemistry*

3 unit(s)

Provides an in-depth survey of the frontiers of bioinorganic chemistry from both biochemical and synthetic inorganic chemistry perspectives.

**Prerequisite(s):** CHEM 130A (or equivalent with a grade of "C" or better; "C-" not accepted) or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 245 - Advanced Inorganic Chemistry*

3 unit(s)

Advanced topics of current interest in inorganic chemistry.

**Prerequisite(s):** CHEM 145 (or equivalent with grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 250 - Current Topics in Analytical Chemistry*

3 unit(s)

Lecture, discussion and reading assignments on special topics in analytical chemistry. Topics vary each semester. Course may be repeated for credit for different topics.

**Prerequisite(s):** CHEM 155 (or equivalent with a grade of "C" or better; "C-" not accepted).

**Grading:** Graded

*CHEM 264 - Chemical Applications of Group Theory*

3 unit(s)

The application of group theoretical principles to problems in quantum chemistry, molecular structure, spectroscopy and ligand field theory.

**Prerequisite(s):** CHEM 161B (or equivalent with grade of "C" or better; "C-" not accepted) or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 265 - Molecular Spectroscopy*

3 unit(s)

Interaction of non-ionizing radiation with matter. Development of the foundations of modern molecular spectroscopy. Determination of detailed molecular structure through spectroscopic information.

**Prerequisite(s):** CHEM 161B (or equivalent with grade of "C" or better; "C-" not accepted).

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 268 - Laser Spectroscopy*

3 unit(s)

Importance of spectroscopy. Interaction of radiation with matter. Instrumentation for laser spectroscopy. Examples of various techniques, cw and pulsed.

**Prerequisite(s):** PHYS 110B, PHYS 158 or instructor consent.

**Grading:** Graded

*CHEM 270 - Advanced Chemistry*

1-5 unit(s)

Lectures, discussions and reading assignments in special fields of chemistry. Topics vary. Course may be repeatable for maximum of 10 units.

*Course may be repeated for credit for up to 10 units.*

**Prerequisite(s):** Satisfactory background in upper division chemistry and instructor consent.

**Grading:** Graded

*CHEM 270L - Advanced Chemistry Laboratory*

1-3 unit(s)

Advanced laboratory assignments in special fields of chemistry. Topics vary. Maximum of 4 units may be repeatable.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Satisfactory background in upper division chemistry, CHEM 120S and instructor consent.

**Grading:** Graded

*CHEM 276 - Physical Polymer Chemistry*

3 unit(s)

Techniques for characterizing molecular weights of polymers, their distribution functions, polymer chain statistics and solution thermodynamics.

**Prerequisite(s):** Satisfactory background in upper division chemistry or materials science or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CHEM 285 - Seminar*

0.5 unit(s)

Presentation of chemical topics by graduate students, faculty and guests. A maximum of 3 units may be repeated.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*CHEM 291 - Divisional Seminar*

0.5 unit(s)

Problem solving and presentation of topics in chemistry by graduate students, faculty and guests. A maximum of 1 unit may be repeated.

*Course may be repeated for credit for up to 1 units.*

**Grading:** Credit/No Credit

*CHEM 293 - Applied Bioinformatics*

3 unit(s)

Bioinformatics theory and applications including sequence search, proteomics, molecular modeling, and combinatorial chemistry. Students will work in teams and be guided in independent inquiry to solve practical bioinformatics problems.

**Prerequisite(s):** Senior or graduate standing in engineering or science.

**Grading:** Graded

*CHEM 297 - MA Special Study*

1-3 unit(s)

Supervised individual MA project. Maximum of 12 unit may be repeated.

*Course may be repeated for credit for up to 12 units.*

**Pre/Corequisite(s):** CHEM 201 and instructor consent. Not available to Open University Students

**Grading:** Credit/No Credit

*CHEM 298 - Research*

1-6 unit(s)

Supervised individual laboratory work or directed chemical field studies for the student with adequate preparation. Maximum of 12 unit may be repeated.

*Course may be repeated for credit for up to 12 units.*

**Pre/Corequisite(s):** CHEM 120S, CHEM 201 and instructor consent. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*CHEM 299 - Master's Thesis*

1-6 unit(s)

Maximum of 6 unit may be repeated.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** CHEM 298, instructor consent and admission to candidacy for the master's degree. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

**Note(s):** 1-2 units per semester.

*CHEM 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in CHEM 299, Master's Thesis

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*NUCS 121S - Radiation Safety*

1-2 unit(s)

Health hazards involved in working with radioactive substances. Physical nature of hazards, biological effects, standards of permissible exposures, safety precautions and protection techniques. Two units meet State of California recommendations.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*NUCS 126 - Introduction to Nuclear Science*

3 unit(s)

Properties of the atomic nucleus. Applications of nuclear science in biology, chemistry, engineering, geology and physics.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*NUCS 127 - Nuclear Science Lab*

3 unit(s)

Basic techniques and procedures used in nuclear science. Nuclear decay, nuclear reactions, radiation detection and measurements, nuclear analytical methods and tracer techniques.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** NUCS 121S, CHEM 100W and CHEM 126 (with grades of "C" or better; "C-" not accepted); or instructor consent.

**Grading:** ABC-/NC Grading

*NUCS 298 - Research*

1-6 unit(s)

Directed individual laboratory work or field studies in radiological health physics and nuclear science for students with adequate preparation. A maximum of 8 units may be repeated.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*NUCS 299 - Master's Thesis*

2-4 unit(s)

**Prerequisite(s):** NUCS 298, instructor consent and admission to candidacy for the master's degree.

**Grading:** Mandatory CR/NC/RP

## Department of Computer Science

**Office:** MacQuarrie Hall 208

**Telephone:** 408-924-5060

**Email:** info-compsci@sjsu.edu

**Website:** www.sjsu.edu/cs

### **Professors**

Robert Chun  
Cay S. Horstmann  
Sami Khuri  
Tsau Y. Lin  
Sigurd Meldal  
Melody Moh, Interim Chair  
Teng-Sheng Moh, Associate Chair  
Jon Pearce  
Christopher Pollett, Graduate Coordinator  
Mark Stamp  
Chris Huan-Chi Tseng

### **Associate Professors**

Thomas Austin  
Suneuy Kim  
David Taylor  
Leonard P. Wesley

### **Assistant Professors**

William Andreopoulos  
Nada Attar  
Philip Heller  
Mei-Chong Wendy Lee  
Katerina Potika  
Benjamin Reed  
Katarzyna Tarnowska  
Ching-seh Wu

## **Overview**

Computer science is all about algorithms: inventing, testing, debugging and improving algorithms that might control a robot's brain, encrypt a stock trade, even simulate an ecosystem. Our bachelor's degree, accredited by the Computing Accreditation Commission of ABET, [www.abet.org](http://www.abet.org), provides a solid foundation in the basic theories that underpin computer software technology. For those who wish to pursue more advanced studies, our master's degree program offers convenient late afternoon and evening classes. Our prime Silicon Valley location fosters high-tech employment opportunities for our graduates, who currently make up a significant portion of the area's programmers, software architects, system analysts and computer scientists.

## **Honors Program**

The requirements for computer science majors to graduate with departmental honors are: (1) at least a 3.0 G.P.A. overall, (2) at least a 3.5 G.P.A. in the major, (3) Completion of CS 180H - Individual Studies for Honors.

# Minimum Grade Requirement

A grade of "C-" or better is required for courses being used to meet any requirement in any minor or major offered by the Department of Computer Science, including support courses.

## Undergraduate

### Computer Science, BS

This degree, offered by the Department of Computer Science, provides a solid background for a variety of careers in the computing profession. Entry level positions include jobs in programming, systems analysis, software engineering and customer support. Such positions are required by nearly every institution whether it is public or private. The Computer Science Program is accredited by the Computing Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), 111 Market Place, Suite 1050, Baltimore, MD, 21202-4012, 410.347.7700. The program not only prepares students for graduate work in computer science, but also for advanced work in the related fields of management science and operations research.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	24
Major Requirements	52
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

#### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

#### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

#### Major-Specific Graduation Requirements

A grade of "C-" or better is required for courses being used to meet any requirement in any minor or major offered by the Department of Computer Science, including Preparation courses.

The Preparation for the Major and Requirements in the Major sections must include at least 37 units of upper division mathematics and computer science course work, excluding CS 100W.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

- CS 100W - Technical Writing Workshop 3 unit(s) (Z)

### Major Preparation (24 units)

*For additional information, please see: [www.sjsu.edu/cs/practicalities/science-requirements](http://www.sjsu.edu/cs/practicalities/science-requirements).*

- MATH 30 - Calculus I 3 unit(s) (B4) (MATH 30X & MATH 30W (5-units) may be used in place of MATH 30.)
- MATH 31 - Calculus II 4 unit(s) (B4)



- MATH 42 - Discrete Mathematics 3 *unit(s)*
- MATH 39 - Linear Algebra I 3 *unit(s)*
- PHIL 134 - Computers, Ethics and Society 3 *unit(s)* (V)
- Approved Science Electives 5 *unit(s)*

## Approved Science Electives

*Approved science electives include*

- BIOL 30 - Principles of Biology I 4 *unit(s)*
- BIOL 31 - Principles of Biology II 4 *unit(s)*
- CHEM 1A - General Chemistry 5 *unit(s)*
- GEOL 1 - General Geology 4 *unit(s)*
- GEOL 4L - Earth Systems Lab 1 *unit(s)*
- GEOL 7 - Earth, Time and Life 4 *unit(s)*
- METR 10 - Weather and Climate 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)*
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)*
- Nine additional units of GE courses covering GE areas B1, B2, B3 and R are required.

## Complete One Course From:

- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 142 - Introduction to Combinatorics 3 *unit(s)*
- MATH 161A - Applied Probability and Statistics I 3 *unit(s)*

## Major Requirements (52 units)

### Lower Division (11 units)

- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*
- CS 47 - Introduction to Computer Systems 3 *unit(s)*

### Upper Division (24 units)

- CS 146 - Data Structures and Algorithms 3 *unit(s)*
- CS 147 - Computer Architecture 3 *unit(s)*
- CS 149 - Operating Systems 3 *unit(s)*
- CS 151 - Object-Oriented Design 3 *unit(s)*
- CS 152 - Programming Paradigms 3 *unit(s)*
- CS 154 - Formal Languages and Computability 3 *unit(s)*
- CS 160 - Software Engineering 3 *unit(s)*

## Complete One Course From:

- CS 116B - Computer Graphics Algorithms 3 *unit(s)*
- CS 123B - Bioinformatics II 3 *unit(s)*
- CS 153 - Concepts of Compiler Design 3 *unit(s)*
- CS 157B - Database Management Systems II 3 *unit(s)*
- CS 157C - NoSQL Database Systems 3 *unit(s)*
- CS 158B - Computer Network Management 3 *unit(s)*
- CS 161 - Software Project 3 *unit(s)*

## Elective Computer Science Courses Not Counted Above (17 units)

At least two courses should be chosen from the following list of electives:

*Qualifying courses include all upper division CS courses except CS 100W and courses counted below.*

- CS 116A - Introduction to Computer Graphics 3 *unit(s)*
- CS 116B - Computer Graphics Algorithms 3 *unit(s)*
- CS 122 - Advanced Programming with Python 3 *unit(s)*
- CS 123A - Bioinformatics I 3 *unit(s)*
- CS 123B - Bioinformatics II 3 *unit(s)*
- CS 134 - Computer Game Design and Programming 3 *unit(s)*
- CS 144 - Advanced C++ Programming 3 *unit(s)*
- CS 153 - Concepts of Compiler Design 3 *unit(s)*
- CS 155 - Introduction to the Design and Analysis of Algorithms 3 *unit(s)*
- CS 156 - Introduction to Artificial Intelligence 3 *unit(s)*
- CS 157A - Introduction to Database Management Systems 3 *unit(s)*
- CS 157B - Database Management Systems II 3 *unit(s)*
- CS 157C - NoSQL Database Systems 3 *unit(s)*
- CS 158A - Computer Networks 3 *unit(s)*
- CS 158B - Computer Network Management 3 *unit(s)*
- CS 159 - Introduction to Parallel Processing 3 *unit(s)*
- CS 161 - Software Project 3 *unit(s)*
- CS 166 - Information Security 3 *unit(s)*
- CS 174 - Server-side Web Programming 3 *unit(s)*
- CS 175 - Mobile Device Development 3 *unit(s)*
  
- CS 190I - Internship Project 3 *unit(s)*  
*or*
- CS 190 - Internship Project 1 *unit(s)* (at most 3 units of may be used)
  
- CS 85C - Practical Computing Topics 3 *unit(s)* (at most 3 units may be used)
- CS 185C - Advanced Practical Computing Topics 3 *unit(s)* (at most 3 units may be used)
- CS 180 - Individual Studies 1-3 *unit(s)* (may be used with prior approval)
- CS 180H - Individual Studies for Honors 3 *unit(s)* (may be used with prior approval)
- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 *unit(s)* (may be used with prior approval)

Qualifying Lower Division CS Courses Include:

*(CS 85C requires prior department approval. CS 49C and CS 49J can be used with department approval.)*

- CS 85C - Practical Computing Topics 3 unit(s)

### Qualifying Math Courses Include:

- MATH 142 - Introduction to Combinatorics 3 unit(s)
- MATH 161A - Applied Probability and Statistics I 3 unit(s)
- MATH 162 - Statistics for Bioinformatics 3 unit(s)
- MATH 177 - Linear and Non-Linear Optimization 3 unit(s)
- MATH 178 - Mathematical Modeling 3 unit(s)
- MATH 179 - Introduction to Graph Theory 3 unit(s)
- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 unit(s)

### Total Units Required (120 units)

## Master

### Bioinformatics, MS

The MS Bioinformatics, offered by the Department of Computer Science, features an interdisciplinary curriculum in bioinformatics, biology, computer science and mathematics. Questions in many areas of biology, including genomics, molecular biology, neuroscience, physiology, microbiology, ecology and evolution, must now be answered using mathematical and computational methods. New techniques allow the acquisitions of many thousands or millions of biological measurements, and the field of bioinformatics has developed to address this need. The MS Bioinformatics program will provide students with an understanding of biological questions, a background in mathematics, and the computational skills necessary to address complex problems in the biological sciences. Students will also gain experience utilizing these skills to answer biological questions, including those with biomedical applications. The goal of the MS in Bioinformatics program is to prepare students for careers in the growing field of bioinformatics both in academia and in the biotechnology industry.

For more information, please visit [www.sjsu.edu/cs/programs/ms\\_bioinformatics](http://www.sjsu.edu/cs/programs/ms_bioinformatics).

## Admissions Requirements

### University Admission

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admissions requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the MS in Bioinformatics.

Applicants from countries in which the native language is not English or from countries with multiple native languages including English, must submit TOEFL scores. Minimum TOEFL scores acceptable for admission are 250 (Computer Based), 100 (Internet Based). Additional information about the TOEFL is given on the university webpage: Graduate Program Test Requirement.

## Admission to the Program

Candidates must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, applicants must have a Bachelor's degree from an accredited college or university in the biological or computational sciences or in engineering, a minimum GPA of 3.0 on a 4.0 scale, and completion of all program prerequisites listed on the admission requirements webpage. Two letters of recommendation from academic instructors or advisors are also required. Currently, GRE exam results are not required.

To enter this program with classified standing, a student must have a minimum 3.0 GPA in the last 60 units of required degree course work and have completed each of the following courses with a grade of "C" or better:

- BIOL 30 - Principles of Biology I (4 units)
- BIOL 31 - Principles of Biology II (4 units)
- BIOL 115 - General Genetics (4 units)
- CS 22A - Python Programming for Non Majors I (3 units)
- CS 22B - Python Programming for Non Majors II (3 units)
- MATH 30 - Calculus I (3 units)
- MATH 31 - Calculus II (4 units)
- MATH 161A - Applied Probability and Statistics I (3 units)
- or equivalent courses

Students who meet the minimum university admission requirements can be conditionally classified if there is sufficient space in the program to accommodate them. Conditionally classified students will be required to complete undergraduate course work and prerequisite coursework (listed in "Requirements for Admission to Classified Standing"), as directed by the graduate coordinators.

## Requirements for Advancement to Candidacy

To be admitted to candidacy for the MS degree, a student must meet the university requirements for advancement to candidacy for the master's degree as outlined in the Graduate Policies and Procedures section. University requirements include completion of 9 letter-graded units with a GPA of at least 3.0 and satisfaction of the Graduation Writing Assessment Requirement (GWAR). The GWAR is met in this program by a "B" grade in CS 200W.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR). *This requirement is satisfied by taking CS 200W.*

# Culminating Experience

## Plan B (Project)

MS in Bioinformatics students will complete a written project as their culminating project. The project requires two consecutive semesters of enrollment in the 3-unit BIOL 298, CS 298B or MATH 298. Students not completing the project in one semester will be required to enroll in three additional units each semester until the project is completed. The student is responsible for identifying a project topic and for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the project advisor. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's project committee. Topics and committee selections must be approved by the Bioinformatics Graduate Coordinator. The project requires writing a manuscript describing original bioinformatics research and formatted for publication in a professional journal. It must be approved by the student's committee.

## Master's Requirements (31 units)

### Core Courses (19 units)

- BIOL 123A - Bioinformatics I 3 *unit(s)*
- BIOL 123B - Bioinformatics II 3 *unit(s)*
- BIOL 205 - Advanced Molecular Techniques 4 *unit(s)*
- CS 200W - Graduate Technical Writing 3 *unit(s)* (GWAR)
- CS 223 - Bioinformatics 3 *unit(s)*
- MATH 162 - Statistics for Bioinformatics 3 *unit(s)*

### Electives (9 units)

*At least 6 units must be graduate level*

- BIOL 135A - Eukaryotic Cell and Molecular Biology I 3 *unit(s)*
- BIOL 135B - Eukaryotic Cell and Molecular Biology II 3 *unit(s)* (R)
- BIOL 215 - Seminar in Advanced Genetics 3 *unit(s)*
- BIOL 298 - MS Project Culminating Experience 1 *unit(s)* (3 *units* required)
- CHE 293 - Applied Bioinformatics 3 *unit(s)*
- CS 122 - Advanced Programming with Python 3 *unit(s)*
- CS 255 - Design and Analysis of Algorithms 3 *unit(s)*
- CS 256 - Topics in Artificial Intelligence 3 *unit(s)*
- CS 257 - Database System Principles 3 *unit(s)*
- CS 267 - Topics in Database Systems 3 *unit(s)*
- CS 280 - Graduate Individual Studies 1-3 *unit(s)*
- MATH 39 - Linear Algebra I 3 *unit(s)*
- MATH 161B - Applied Probability and Statistics II 3 *unit(s)*
- MATH 163 - Probability Theory 3 *unit(s)*
- MATH 267A - Statistical Programming with R 3 *unit(s)*
- MATH 298 - Special Study 1-4 *unit(s)* (3 *units* required)
- 100- or 200-level courses chosen with advisor consent

## Culminating Experience (3 units)

3 units of one of the following courses selected in consultation with the graduate advisor:

- BIOL 298 - MS Project Culminating Experience 1 *unit(s)*
- CS 298B - Bioinformatics Master's Project 3 *unit(s)* (1-3 *units required*)
- MATH 298 - Special Study 1-4 *unit(s)* (3 *units required*)

## Total Units Required (31 units)

Elective courses must be planned in consultation with one of the Graduate Coordinators.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 12.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of at least 3.0 in order to graduate.

## Computer Science, MS

The Master of Science in Computer Science degree, offered by the Department of Computer Science, provides greater depth in computer science for more advanced positions in industry or teaching at the community college level. Check the Department website for details at [www.sjsu.edu/cs/programs/mscs](http://www.sjsu.edu/cs/programs/mscs).

## Admissions Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through Cal State Apply and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the Computer Science program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information in this Catalog.

### Requirements for Admission to Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division. In addition, entering students are expected to have a bachelor's degree in computer science or its equivalent, e.g., a degree presenting at least the breadth and depth of the SJSU BS, Computer Science program. An applicant holding a recent bachelor's degree in Computer Science from an ABET-accredited university will normally meet the course requirements for admission to the MSCS program.

## Requirements for Admission to Conditionally Classified Standing

Applicants who meet the minimum requirements for admission to the Graduate Division but lack other prerequisite course knowledge can be admitted in conditionally classified status if there is sufficient space in the program to accommodate them. Conditionally classified students will be required to complete undergraduate coursework to attain Classified standing. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Transfer of Courses into the Major

Students may transfer nine credits into the program from coursework completed in the SJSU Computer Science Department. A maximum of 6 units may be from courses outside the SJSU Computer Science Department. All transfer credit must fulfill MS, Computer Science program requirements and be approved by the Graduate Coordinator.

## Requirements for Advancement to Graduate Candidacy

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. The Computer Science Department policy is that students should complete the GWAR requirement (usually by taking CS 200W) in their first year in the MS program and must complete it two semesters before graduation. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by taking CS 200W.*

### Culminating Experience

Students choose a Plan A (Thesis) or Plan B (Written Project) option as their program culminating experience.

**Plan A (Thesis)**

After being admitted to candidacy, the student choosing the thesis option must obtain a thesis director from among the tenured or tenure-track faculty of the Computer Science Department who then becomes his or her advisor. Before work can begin, the thesis topic must be approved by a three-member committee consisting of the thesis director, another professor from the CS Department, and a third member who is an expert in the field, selected by the thesis director and approved by the Department Chairperson. The candidate should register for the CS 297 - Preparation for Writing Project or Thesis before the final semester, and take CS 299 - Master's Thesis in the final semester of the program. Students who do not finish the thesis in that semester enroll in the 1290R for subsequent semesters until it is completed. Upon completion of the thesis, the candidate must pass a comprehensive oral examination in the area of his or her thesis, conducted by the thesis committee. The thesis must also meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines.

**Plan B (Written Project)**

After being admitted to candidacy, the student must obtain a project director from the Computer Science Department who then becomes his or her advisor. Before work can begin, the project topic must be approved by a three-member committee consisting of the project director, another professor from the CS Department, and a third member who is an expert in the field, selected by the thesis director and approved by the Department Chairperson. The candidate should register for the CS 297 - Preparation for Writing Project or Thesis before the final semester, and take the CS 298 - Master's Writing Project in the final semester of the program. Students who do not finish the project in that semester enroll in the 1290R for subsequent semesters until it is completed. Upon completion of the project, the candidate must pass an oral examination in the area of his or her project conducted by the project committee.

**Masters Requirements (33 units)****Core Courses (21 units)**

- CS 200W - Graduate Technical Writing 3 *unit(s)* (GWAR)

**Foundations (3 units)**

Choose one of the following foundations courses:

- CS 252 - Advanced Programming Language Principles 3 *unit(s)*
- CS 254 - Theory of Computation 3 *unit(s)*
- CS 255 - Design and Analysis of Algorithms 3 *unit(s)*
- CS 262 - Randomized Algorithms and Applications 3 *unit(s)*
- MATH 279A - Graph Theory 3 *unit(s)*

**Architecture (3 units)**

Choose one of the following architecture courses:

- CS 247 - Advanced Computer Architecture 3 *unit(s)*
- CS 258 - Computer Communication Systems 3 *unit(s)*
- CS 259 - Advanced Parallel Processing 3 *unit(s)*
- CS 268 - Topics in Wireless Mobile Networking 3 *unit(s)*

**Systems Software (3 units)**

Choose one of the following systems software courses:



- CS 218 - Topics in Cloud Computing 3 *unit(s)*
- CS 249 - Distributed Computing 3 *unit(s)*
- CS 253 - Advanced Compiler Design 3 *unit(s)*
- CS 257 - Database System Principles 3 *unit(s)*
- CS 267 - Topics in Database Systems 3 *unit(s)*

## Specialty Courses (9 units)

Select nine units of 200-level computer science courses from the foundations, architecture or systems software classes above or from the following list:

*Variable topic courses may be repeated for up to 6 units.*

- CS 216 - Geometric Modeling 3 *unit(s)*
- CS 223 - Bioinformatics 3 *unit(s)*
- MATH 243A - Numerical Solution of PDEs 3 *unit(s)*
- CS 243B - Advanced Topics in Numerical Analysis 3 *unit(s)*
- CS 256 - Topics in Artificial Intelligence 3 *unit(s)*
- CS 265 - Cryptography and Computer Security 3 *unit(s)*
- CS 266 - Topics in Information Security 3 *unit(s)*
- CS 271 - Topics in Machine Learning 3 *unit(s)*
- CS 274 - Topics in Web Intelligence 3 *unit(s)*
- CS 286 - Advanced Topics in Computer Science 3 *unit(s)*

## Electives (6 units)

Select 6 units of permissible elective courses from the department list. Courses not on the list must be approved in advance by a graduate coordinator.

Electives may include three units from:

- CS 180 - Individual Studies 1-3 *unit(s)*
- CS 280 - Graduate Individual Studies 1-3 *unit(s)*

## Culminating Experience (6 units)

### Complete One Option (Plan A or Plan B)

#### Plan A (Thesis) (6 units)

- CS 297 - Preparation for Writing Project or Thesis 3 *unit(s)*
- CS 299 - Master's Thesis 3 *unit(s)*
- Comprehensive Oral Examination

#### Plan B (Project) (6 units)

- CS 297 - Preparation for Writing Project or Thesis 3 *unit(s)*
- CS 298 - Master's Writing Project 3 *unit(s)*

- Comprehensive Oral Examination

## Total Units Required (33 units)

No more than 6 units may be taken from outside the Department of Computer Science.

Elective courses must be planned in consultation with a CS Graduate Advisor or your CS Thesis or CS Writing Project advisor.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Certificate

### Cybersecurity: Core Technologies Certificate (Graduate)

The Computer Science Department offers a 9-unit advanced (graduate) certificate program to students to advance knowledge of cyber security. The program aligns with nationally defined knowledge areas and prepares students to become a professional in cyber security and information assurance.

#### Certificate Core

*With the permission, CS 158A may be substituted for one regular CS course that lists CS 158A as a prerequisite (including CS 158B, CS 258, and CS 268).*

- CS 158A - Computer Networks 3 unit(s)
- CS 265 - Cryptography and Computer Security 3 unit(s)
- CS 266 - Topics in Information Security 3 unit(s)

## Total Units Required (9 units)

### Fundamentals of Cybersecurity Certificate (Graduate)

The certificate program aligns with the nationally defined knowledge areas in cyber security and information assurance, and prepares students with well-grounded fundamentals to become a professional in these areas.

#### Core Requirements (18 units)

- CS 146 - Data Structures and Algorithms 3 unit(s)
- CS 149 - Operating Systems 3 unit(s)
- CS 157A - Introduction to Database Management Systems 3 unit(s)
- CS 158B - Computer Network Management 3 unit(s)
- CS 166 - Information Security 3 unit(s)

#### Complete One Course From:

- CS 158A - Computer Networks 3 *unit(s)*
- CMPE 148 - Computer Networks I 3 *unit(s)*

Total Units Required (18 units)

## Minor

### Computer Science Minor

At least 12 of units must be distinct from the student's major. At least three units of upper division course work must be completed in the Computer Science Department at SJSU. Students are expected to have satisfied the prerequisites for any of the courses taken to fulfill the requirements for the Computer Science Minor. A grade of "C-" or better is required for courses being used to meet any requirement in the minor.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

Minor Preparation (3 units)

- MATH 42 - Discrete Mathematics 3 *unit(s)*

Minor Requirements (17 units)

Lower Division (8 units)

- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*

Upper or Lower Division Elective (3 units)

Complete one course from:

- MATH 30 - Calculus I 3 *unit(s)* (B4)
- CS 47 - Introduction to Computer Systems 3 *unit(s)*
- CS 49C - Programming in C 3 *unit(s)* (Or any permitted Upper Division Elective)

Upper Division Electives (6 units)

Complete six units from:

- CS 116A - Introduction to Computer Graphics 3 *unit(s)*
- CS 116B - Computer Graphics Algorithms 3 *unit(s)*
- CS 122 - Advanced Programming with Python 3 *unit(s)*
- CS 123A - Bioinformatics I 3 *unit(s)*
- CS 123B - Bioinformatics II 3 *unit(s)*

- CS 134 - Computer Game Design and Programming 3 *unit(s)*
- CS 143C - Numerical Analysis and Scientific Computing 3 *unit(s)*
- CS 143M - Numerical Analysis and Scientific Computing 3 *unit(s)*
- CS 144 - Advanced C++ Programming 3 *unit(s)*
- CS 146 - Data Structures and Algorithms 3 *unit(s)*
- CS 147 - Computer Architecture 3 *unit(s)*
- CS 149 - Operating Systems 3 *unit(s)*
- CS 151 - Object-Oriented Design 3 *unit(s)*
- CS 152 - Programming Paradigms 3 *unit(s)*
- CS 153 - Concepts of Compiler Design 3 *unit(s)*
- CS 154 - Formal Languages and Computability 3 *unit(s)*
- CS 155 - Introduction to the Design and Analysis of Algorithms 3 *unit(s)*
- CS 156 - Introduction to Artificial Intelligence 3 *unit(s)*
- CS 157A - Introduction to Database Management Systems 3 *unit(s)*
- CS 157B - Database Management Systems II 3 *unit(s)*
- CS 157C - NoSQL Database Systems 3 *unit(s)*
- CS 158A - Computer Networks 3 *unit(s)*
- CS 158B - Computer Network Management 3 *unit(s)*
- CS 159 - Introduction to Parallel Processing 3 *unit(s)*
- CS 160 - Software Engineering 3 *unit(s)*
- CS 166 - Information Security 3 *unit(s)*
- CS 174 - Server-side Web Programming 3 *unit(s)*
- CS 175 - Mobile Device Development 3 *unit(s)*

## Total Units Required (20 units)

### *CS 22A - Python Programming for Non Majors I*

3 *unit(s)*

Introduction to Python programming in interesting, relevant, and practical contexts. Programming skills are developed to solve problems in such fields as life sciences, mathematics, and business. Fundamental programming constructs: data structures and algorithms, iterations, and functions.

**Prerequisite(s):** Course is intended for students who have no prior programming experience. Course is not open to computer science majors or minors or software engineering majors.

**Grading:** Graded

### *CS 22B - Python Programming for Non Majors II*

3 *unit(s)*

Hands-on Python programming skills. Skills include casting a problem as an algorithm, translating an algorithm to executable code, and debugging and testing code. Applications focus on computational techniques to understand, analyze, and visualize data.

**Prerequisite(s):** CS 22A or consent of the instructor. This course is not open to computer science majors or minors or software engineering majors.

**Grading:** Graded

### *CS 25 - The Digital World and Society*

3 unit(s)

The secure, effective and ethical use of information technology. The effect of such technology on people and institutions. Technology-related challenges to society and policy. Frameworks for the analysis of information technology with respect to its cultural, historical, environmental, and spatial contexts.

*Satisfies D1: Human Behavior*

**Grading:** Graded

*CS 40 - Introduction to Computers*

3 unit(s)

For students with little or no computer experience. Topics include: history of computing, user interfaces, computer applications, programming, hardware and software, computer networks.

**Grading:** Graded

*CS 42 - Discrete Mathematics*

3 unit(s)

Sets, logic, methods of proof including mathematical induction, functions, relations, elementary combinatorics, probability, Boolean algebras.

**Prerequisite(s):** Math Enrollment Category M-I or M-II and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of "B" or better to waive the exam; or MATH 18A and MATH 18B, with a grade of "B" or better in each to waive the exam.

**Grading:** Graded

**Note(s):** Students who are repeating MATH 42 and MATH 42X are not eligible for this class and must take MATH 42X.

*CS 42X - Discrete Mathematics*

3 unit(s)

Sets, logic, methods of proof including mathematical induction, functions, relations, elementary combinatorics, probability, Boolean algebras.

**Prerequisite(s):** Math Enrollment Category M-I, M-II, M-III and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of C- or better to waive the exam; or MATH 18A and MATH 18B with a grade of C- or better in each to waive the exam.

**Corequisite(s):** MATH 42W.

**Grading:** Graded

*CS 46A - Introduction to Programming*

4 unit(s)

Basic skills and concepts of computer programming in an object-oriented approach using Java. Classes, methods and argument passing, control structures, iteration. Basic graphical user interface programming. Problem solving, class discovery and stepwise refinement. Programming and documentation style. Weekly hands-on activity.

*Lecture 4 hour/lab 3 hours.*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III, or MATH 1 with a grade of C- or better; and a major of

Computer Science, Software Engineering, or Undeclared; or instructor consent.

**Grading:** Graded

*CS 46B - Introduction to Data Structures*

*4 unit(s)*

Stacks and queues, recursion, lists, dynamic arrays, binary search trees. Iteration over collections. Hashing. Searching, elementary sorting. Big-O notation. Standard collection classes. Weekly hands-on activity.

*Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** Knowledge of Java equivalent to CS 46A (in Java) or CS 49J (with grade of C- or better). Math Enrollment Category M-I or M-II and satisfactory score on the Precalculus Proficiency Assessment (70 or higher), or MATH 19 with a C- or better, or MATH 18A and MATH 18B with C- or better.

**Grading:** Graded

*CS 47 - Introduction to Computer Systems*

*3 unit(s)*

Instruction sets, assembly language and assemblers, linkers and loaders, data representation and manipulation, interrupts, pointers, function calls, argument passing, and basic gate-level digital logic design.

**Prerequisite(s):** CS 46B (with a grade of "C-" or better)

**Grading:** Graded

*CS 49C - Programming in C*

*3 unit(s)*

Beginning course in the C language.

**Prerequisite(s):** Previous programming experience and completion of math GE.

**Grading:** Graded

*CS 49J - Programming in Java*

*3 unit(s)*

Introduction to the Java programming language and libraries. Topics include fundamental data types and control structures, object-oriented programming, string processing, input/output, and error handling. Use of Java libraries for mathematics, graphics, collections, and for user interfaces.

**Prerequisite(s):** Previous programming experience in a language other than Java.

**Grading:** Graded

*CS 50 - Scientific Computing I*

*2 unit(s)*

Computer systems and structured programming, emphasizing solutions of problems in the atmospheric sciences using Python programming. Includes the UNIX operating system, mass data handling and data visualization.

*Lecture 1 hour/Lab 3 hours.*

**Prerequisite(s):** MATH 30 or MATH 30X.

**Corequisite(s):** For METR majors: MATH 31 or MATH 30X, METR 60, PHYS 50. For Climate Science majors: METR 60 and CHEM 1A.

**Grading:** Graded

*CS 85C - Practical Computing Topics*

3 unit(s)

Computing topics of current interest in industrial practice. Emphasis on effective use and integration of software/hardware. Different topics may be offered at different times in a short-course lecture/lab format. Different versions of this course may be repeated for credit.

**Prerequisite(s):** Additional Varies with topic

**Pre/Corequisite(s):** eligibility for MATH 19

**Grading:** Graded

*CS 92 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*CS 100W - Technical Writing Workshop*

3 unit(s)

Advanced writing through preparation of technical reports and presentations. Improving skills for writing subject-related reports, project proposals and personal resumes through practice and evaluation. Course assignments will be related to issues concerning careers in computer science. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*CS 108 - Introduction to Game Studies*

3 unit(s)

Introduction to the systems, design, history, and cultural analysis of games with emphasis on critical studies, development, technological literacy, markets and impact on society.

**Prerequisite(s):** Upper division standing or instructor consent.

**Grading:** Graded

*CS 116A - Introduction to Computer Graphics*

3 unit(s)

Vector geometry, geometric transformations and the graphics pipeline. Basic raster graphics algorithms for drawing discrete lines, clipping, visible surface determination and shading. Display of curves and surfaces. Graphics data structures.

**Prerequisite(s):** Prerequisite(s): MATH 31 or MATH 31X, MATH 39, CS 146 (with a grade of "C-" or better in each) and previous programming experience in C/C++. Or instructor consent.

**Grading:** Graded

*CS 116B - Computer Graphics Algorithms*

*3 unit(s)*

In-depth discussion of algorithms and techniques used in computer graphics and their implementation. Topics include: animation, fractals, anti-aliasing, fill algorithms, visible surface algorithms, color and shading, ray tracing, radiosity and texture maps. Substantial programming required.

**Prerequisite(s):** CS 116A (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*CS 122 - Advanced Programming with Python*

*3 unit(s)*

Advanced features of the Python programming language with emphasis on programming practice. Course involves substantial programming projects in Python.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*CS 123A - Bioinformatics I*

*3 unit(s)*

Introduction to the main public domain tools, databases and methods in bioinformatics. Analysis of algorithms behind the most successful tools, such as the local and global sequence alignment packages, and the underlying methods used in fragment assembly packages. Solution of complex biological questions requiring modification of standard code.

**Prerequisite(s):** BIOL 30 and BIOL 31, or CS 46A and CS 46B Allowed Declared Majors: Biology, Chemistry, Computer Science

**Grading:** Graded

*CS 123B - Bioinformatics II*

*3 unit(s)*

Computational methods used for searching, classifying, analyzing, and modeling protein sequences. Tools for analyzing DNA and RNA sequences. More advanced topics, such as genetic algorithms and simulated annealing, which can be used to address folding problems.

**Prerequisite(s):** CS 123A.

**Grading:** Graded

*CS 134 - Computer Game Design and Programming*

*3 unit(s)*

Architectures and object-oriented patterns for computer game design. Animation, simulation, user interfaces, graphics, and intelligent behaviors. Team projects using an existing game engine framework.



**Prerequisite(s):** CS 146 and either CS 151 or CMPE 135 (with a grade of "C-" or better in each); or instructor consent.

**Grading:** Graded

*CS 143C - Numerical Analysis and Scientific Computing*

*3 unit(s)*

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include nonlinear equations, interpolation, approximation theory, differentiation, integration, differential equations, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

**Prerequisite(s):** MATH 32 or MATH 32X, one of CS 22A, MATH 50, CS 46A, CS 49C or CS 49J, one of MATH 33A, MATH 33LA, or MATH 34 (with a grade of "C-" or better in each); or instructor consent.

**Grading:** Graded

*CS 143M - Numerical Analysis and Scientific Computing*

*3 unit(s)*

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include systems of linear equations-direct and iterative methods, least squares problems, eigenvalues and eigenvectors, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

**Prerequisite(s):** MATH 39, one of CS 22A, MATH 50, CS 46A or CS 49C (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*CS 144 - Advanced C++ Programming*

*3 unit(s)*

Advanced features of C++, including operator overloading, memory management, templates, exceptions, multiple inheritance, RTTI, namespaces, tools.

**Prerequisite(s):** CS 46B and CS 49C (with a grade of C- or better in each), or equivalent knowledge of object-oriented programming and C, or instructor consent.

**Grading:** Graded

*CS 146 - Data Structures and Algorithms*

*3 unit(s)*

Implementations of advanced tree structures, priority queues, heaps, directed and undirected graphs. Advanced searching and sorting (radix sort, heapsort, mergesort, and quicksort). Design and analysis of data structures and algorithms. Divide-and-conquer, greedy, and dynamic programming algorithm design techniques.

**Prerequisite(s):** MATH 30, MATH 42, CS 49J (or equivalent knowledge of Java), and CS 46B (with a grade of "C-" or better in each); Computer Science, Applied and Computational Math or Software Engineering Majors only; or instructor consent.

**Grading:** Graded

*CS 147 - Computer Architecture*

3 unit(s)

Introduction to the basic concepts of computer hardware structure and design, including processors and arithmetic logic units, pipelining, and memory hierarchy.

**Prerequisite(s):** CS 47 or CMPE 102 (with a grade of "C-" or better), Computer Science, Applied and Computational Math, or Software Engineering majors only; or instructor consent.

**Grading:** Graded

### *CS 149 - Operating Systems*

3 unit(s)

Fundamentals: Contiguous and non-contiguous memory management; processor scheduling and interrupts; concurrent, mutually exclusive, synchronized and deadlocked processes; files. Substantial programming project required.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better). Computer Science, Applied and Computational Math or Software Engineering Majors only; or Instructor Consent.

**Grading:** Graded

### *CS 151 - Object-Oriented Design*

3 unit(s)

Design of classes and interfaces. Object-oriented design methodologies and notations. Design patterns. Generics and reflection. Exception handling. Concurrent programming. Graphical user interface programming. Software engineering concepts and tools. Required team-based programming assignment.

**Prerequisite(s):** MATH 42, CS 46B, and CS 49J (or equivalent knowledge of Java) (with a grade of "C-" or better in each); Allowed Declared Majors: Computer Science, Applied and Computational Math or Software Engineering. Or instructor consent.

**Grading:** Graded

### *CS 152 - Programming Paradigms*

3 unit(s)

Programming language syntax and semantics. Data types and type checking. Scope, bindings, and environments. Functional and logic programming paradigms, and comparison to other paradigms. Extensive coverage of a functional language.

**Prerequisite(s):** CS 151 or CMPE 135 (with a grade of "C-" or better); Computer Science, Applied and Computational Math or Software Engineering Majors only; or instructor consent.

**Grading:** Graded

### *CS 153 - Concepts of Compiler Design*

3 unit(s)

Theoretical aspects of compiler design, including parsing context free languages, lexical analysis, translation specification and machine-independent code generation. Programming projects to demonstrate design topics.

**Prerequisite(s):** CS 47 or CMPE 102, CS 146, and CS 154 (with a grade of "C-" or better in each); Computer Science, Applied and Computational Math or Software Engineering majors only; or instructor consent.

**Grading:** Graded

*CS 154 - Formal Languages and Computability*

3 unit(s)

Finite automata, context-free languages, Turing machines, computability.

**Prerequisite(s):** MATH 42 or MATH 42X and CS 46B (with a grade of "C-" or better in each); Allowed Declared Majors: Computer Science, Applied and Computational Mathematics, or Software Engineering, or instructor consent.

**Grading:** Graded

*CS 155 - Introduction to the Design and Analysis of Algorithms*

3 unit(s)

Algorithm design techniques: dynamic programming, greedy algorithms, Euclidean and extended Euclidean algorithms, Discrete and Fast Fourier transforms. Analysis of algorithms, intractable problems and NP-completeness. Additional topics selected from: selection algorithms and adversary arguments, approximation algorithms, parallel algorithms, and randomized algorithms.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*CS 156 - Introduction to Artificial Intelligence*

3 unit(s)

Basic concepts and techniques of artificial intelligence: problem solving, search, deduction, intelligent agents, knowledge representation. Topics chosen from logic programming, game playing, planning, machine learning, natural language, neural nets, robotics.

**Prerequisite(s):** CS 146 and either CS 151 or CMPE 135 (with a grade of "C-" or better in each); or instructor consent.

**Grading:** Graded

*CS 157A - Introduction to Database Management Systems*

3 unit(s)

Current, classical database systems. Entity-relationship and enhanced entity models. Relational model, algebra, calculus. Current, emerging SQL standard. Embedded, Dynamic SQL. Application perspective on transactions and security. Interactive and programmatic interfaces to database systems. Application programming project using commercial database system.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering majors only; or instructor consent.

**Grading:** Graded

*CS 157B - Database Management Systems II*

3 unit(s)

Survey course. Object-oriented data model, definition language, query language. Object relational database systems. Database trends like active, temporal, multimedia, deductive databases. Web database topics, namely, architectures, introduction to interface languages. Team projects.

**Prerequisite(s):** CS 157A (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or

Software Engineering Majors only; or instructor consent.

**Grading:** Graded

*CS 157C - NoSQL Database Systems*

*3 unit(s)*

NoSQL Data Models: Key-Value, Wide Column, Document, and Graph Stores. CAP Theorem. Distribution Models. Current NoSQL Databases: Configuration and Deployment, CRUD operations, Indexing, Replication, and Sharding. Public Data Sets. API Coding and Application Development. NoSQL in the Cloud. Team Project.

**Prerequisite(s):** CS 157A with a "C- or better"

**Grading:** Graded

*CS 158A - Computer Networks*

*3 unit(s)*

Introduction to computer networks, including network layered architectures, local and wide area networks, mobile wireless networks, Internet TCP/IP protocol suite, network resource management, network programming, network performance, network security, network applications.

**Prerequisite(s):** CS 146, and CS 147 or CMPE 120, (with grades of "C-" or better in each); or instructor consent.

**Grading:** Graded

*CS 158B - Computer Network Management*

*3 unit(s)*

Principles and technologies of network management: reference models, functions (fault, configuration, performance, security and accounting management), management information, communication protocols, integration, and assessment. Network security and cyber defense: cryptography, key distribution, authentication protocols, network attacks, access control, and example systems.

**Prerequisite(s):** CS 158A or CMPE 148 (with a grade of "C-" or better), or instructor consent

**Grading:** Graded

*CS 159 - Introduction to Parallel Processing*

*3 unit(s)*

Major parallel architectures: shared memory, distributed memory, SIMD, MIMD. Parallel algorithms: techniques for scientific applications, measures of performance. Parallel programming: principles and implementations in various languages. Assignments on available parallel and vector computers.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

**Grading:** Graded

*CS 160 - Software Engineering*

*3 unit(s)*

Software engineering principles, software process and process models, requirements elicitation and analysis, design, configuration management, quality control, project planning, social and ethical issues. Required team-based software development, including written requirements specification and design documentation, oral presentation, and tool use.

**Prerequisite(s):** CS 146, CS 151 (with a grade of "C-" or better in each); CS 100W (with a grade of "C" or better) or instructor consent. Computer Science and Software Engineering Majors only.

**Grading:** Graded

*CS 161 - Software Project*

*3 unit(s)*

A substantial project based on material from an advanced area of computer science. Includes lectures on the project topic and the design and testing of software systems. At least 50% of the course grade to be based on the project.

**Prerequisite(s):** CS 160 (with a grade of "C-" or better) or instructor consent. Computer Science and Software Engineering Majors only.

**Grading:** Graded

*CS 166 - Information Security*

*3 unit(s)*

Fundamental security topics including cryptography, protocols, passwords, access control, software security, and network security. Additional topics selected from multilevel security, biometrics, tamper-resistant hardware, information warfare, e-commerce, system evaluation and assurance, and intrusion detection.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better) and either CS 47 or CMPE 102 or CMPE 120 (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only; or instructor consent.

**Grading:** Graded

*CS 168 - Blockchain and Cryptocurrencies*

*3 unit(s)*

Cryptocurrencies and the blockchain. Centralized clearinghouse solutions vs. distributed consensus solutions. The blockchain and its validation approaches: proof-of-work, proof-of-stake, proof-of-storage, etc. Cryptocurrency wallets. Smart contracts.

**Prerequisite(s):** CS 166 (with a grade of C- or better) or instructor consent.

**Grading:** Graded

*CS 174 - Server-side Web Programming*

*3 unit(s)*

Development and deployment of multi-tier web-based applications. Introduction to HTML, XML, enterprise design patterns, web services and database access.

**Prerequisite(s):** CS 46B (with a grade of "C-" or better); Computer Science, Applied and Computational Math, or Software Engineering Majors only.

**Grading:** Graded

*CS 175 - Mobile Device Development*

*3 unit(s)*

Mobile Platform APIs including those for networking, touch, graphics, data, location, and camera. Testing and profiling on devices and emulators/simulators.

**Prerequisite(s):** CS 47, and knowledge of Java equivalent to that of CS 46A or CS 49J  
**Grading:** Graded

*CS 180 - Individual Studies*

*1-3 unit(s)*

Individual study in a specific field.

**Prerequisite(s):** Department chair consent. Not available to Open University Students  
**Grading:** Credit/No Credit

*CS 180H - Individual Studies for Honors*

*3 unit(s)*

Senior project on advanced topics in computer science as determined by the instructor. Written paper or oral presentation of the project required. Intended for students graduating with departmental honors.

**Prerequisite(s):** At least junior standing as computer science major. GPA of 3.5 or higher in the major and department chair consent.

**Grading:** Credit/No Credit

*CS 185C - Advanced Practical Computing Topics*

*3 unit(s)*

Computing topics of current interest in industrial practice. Emphasis on effective use and integration of software/hardware. Different topics may be offered at different times in a short-course lecture/lab format and may be repeated for credit.

**Prerequisite(s):** Varies with topic.

**Grading:** Graded

*CS 190 - Internship Project*

*1 unit(s)*

Work on an approved semester-long paid project at an industrial site. Meet once per week on campus. Progress reports, oral presentations, final report, and evaluation by project supervisor will be used to demonstrate the acquisition of skills identified as goals prior to the start of the assignment.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** CS 146 (with a grade of "C-" or better) or graduate standing, selection by a company, and instructor consent

**Grading:** Graded

*CS 190I - Internship Project*

*3 unit(s)*

Work on an approved semester-long paid project at an industrial site. Meet once per week on campus. Progress reports, oral presentations, final report, and evaluation by project supervisor will be used to demonstrate the acquisition of skills identified as goals prior to the start of the assignment.

**Prerequisite(s):** CS 146 (with a grade of "C-" or better) or graduate standing, selection by a company, and instructor

consent.

**Grading:** Graded

*CS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*CS 200W - Graduate Technical Writing*

3 unit(s)

Graduate technical writing workshop to develop advanced communication skills that will meet the professional needs of computer scientists, along with research methodologies and proper documentation for the master's thesis project. (This course does NOT satisfy the undergraduate GE Area Z requirement.)

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Graduate standing.

**Grading:** AB-/NC Grading

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*CS 216 - Geometric Modeling*

3 unit(s)

Representation of curves and surfaces, basic differential geometry, solid modeling fundamentals, implementation considerations.

**Prerequisite(s):** CS 116A or instructor consent.

**Grading:** Graded

*CS 218 - Topics in Cloud Computing*

3 unit(s)

Topics in cloud computing, including distributed system models, virtual machines, virtualization, cloud platform architectures (IaaS, PaaS, SaaS), service-oriented architectures, cloud programming and software environments, peer-to-peer computing, ubiquitous cloud, cloud security and trust management.

**Prerequisite(s):** CS 149

**Grading:** Graded

*CS 223 - Bioinformatics*

3 unit(s)

The course investigates the main algorithms for solving computational problems in bioinformatics. Methods will include Hidden Markov Models for gene prediction and protein profiling, and Genetic Algorithms for biological sequence analysis and structure prediction. Students will be given programming projects.

**Prerequisite(s):** CS 123A or CS 155.

**Grading:** Graded

*CS 235 - User Interface Design*

3 unit(s)

Human-computer interaction principles. Direct manipulation, focus plus context, interaction history; interfaces for websites and website collections; usability testing; role of metaphors; case studies; advanced topics include information visualization, interfaces for collaboration, intelligent interfaces, and software agents.

**Prerequisite(s):** CS 130 or CS 116A, or instructor consent.

**Grading:** Graded

*CS 243B - Advanced Topics in Numerical Analysis*

3 unit(s)

Advanced topics in numerical methods.

**Prerequisite(s):** MATH 143C or MATH 143M; and instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*CS 247 - Advanced Computer Architecture*

3 unit(s)

Advanced topics in vector architectures, including: pipelined architectures, dataflow computers, VLSI architectures, butterfly connections; bus and memory architectures; cache structures; hardware implementations of algorithms.

**Prerequisite(s):** CS 147 and CS 149 or instructor consent.

**Grading:** Graded

*CS 249 - Distributed Computing*

3 unit(s)

Current issues in operating systems, including multiprocessor systems and distributed computing, networks, security and performance. Case studies of current operating systems.

**Prerequisite(s):** CS 149 or instructor consent.

**Grading:** Graded

*CS 251 - Obj Oriented Anlys*

3 unit(s)

Introduction to important concepts, activities, and artifacts of the analysis and design phases of object-oriented software development. Use of CASE tools, UML, and pattern catalogs to build requirements models, domain models, design models, and reusable frameworks for a variety of software systems.

**Prerequisite(s):** CS 160 or instructor consent

**Grading:** Graded

*CS 251A - Object-Oriented Analysis*

3 unit(s)

Emphasizes the important concepts, activities, and artifacts of the analysis phase of object-oriented software development. CASE tools and UML are used to model application domain data, workflows, system requirements, deployment, and life cycles.



**Prerequisite(s):** CS 160 or instructor consent.

**Grading:** Graded

*CS 251B - Object-Oriented Design*

3 unit(s)

Course covers important concepts, activities, and artifacts of the design phase of object-oriented software development. Topics include design metrics, design patterns, refactoring, frameworks, and testing.

**Prerequisite(s):** CS 160 or instructor consent.

**Grading:** Graded

*CS 252 - Advanced Programming Language Principles*

3 unit(s)

Language design and paradigms, including concepts underlying functional, logic, object-oriented and parallel paradigms. Theoretical foundations, including lambda calculus, denotational and axiomatic semantics. Proofs of program correctness. Programming projects emphasizing different aspects of language design.

**Prerequisite(s):** CS 152 or instructor consent.

**Grading:** Graded

*CS 253 - Advanced Compiler Design*

3 unit(s)

Review of attribute analysis and static semantic evaluation. Runtime environments and code generation. Basic blocks and flow graphs. Register allocation and storage classes. Common subexpression elimination and constant propagation. Loop optimizations. Global data flow analysis. Completion of a code optimization project.

**Prerequisite(s):** CS 153 or instructor consent.

**Grading:** Graded

*CS 254 - Theory of Computation*

3 unit(s)

Models of computation; decidability; complexity measures; hierarchies; P, NP and other complexity classes; intractable problems.

**Prerequisite(s):** CS 154 or instructor consent.

**Grading:** Graded

*CS 255 - Design and Analysis of Algorithms*

3 unit(s)

Randomized algorithms. Parallel algorithms. Distributed algorithms. NP-completeness of particular problems. Approximation algorithms.

**Prerequisite(s):** CS 155 or instructor consent.

**Grading:** Graded

*CS 256 - Topics in Artificial Intelligence*

3 unit(s)

Introduction to topics in artificial intelligence such as problem solving methods, game playing, understanding natural languages, pattern recognition, computer vision and the general problem of representing knowledge. Students will be expected to use LISP.

**Prerequisite(s):** CS 156 or instructor consent.

**Grading:** Graded

*CS 257 - Database System Principles*

3 unit(s)

Design management and performance issues on: file organization and access methods, buffer management and storage management. Query processing and query optimization, transaction management, recovery, and concurrency control techniques. Reliability, protection and integrity techniques. Extensive programming project.

**Prerequisite(s):** CS 157B or instructor consent.

**Grading:** Graded

*CS 258 - Computer Communication Systems*

3 unit(s)

Design, analysis and survey of the latest advancements in network and Internet technologies, such as supporting TCP/IP over various network media, software-defined networks, networks supporting cloud computing, network security, peer-to-peer and overlay networks, and quality of services.

**Prerequisite(s):** CS 158A or instructor consent.

**Grading:** Graded

*CS 259 - Advanced Parallel Processing*

3 unit(s)

An advanced hardware architecture and software development class focused on multi-threaded, parallel processing algorithms and techniques. A study of high-performance parallel hardware architectures and parallel programming languages. Applications of parallel and GPU processing, including computer gaming.

**Grading:** Graded

*CS 262 - Randomized Algorithms and Applications*

3 unit(s)

Design and analysis of algorithms which incorporate randomness in their design. Applications will be given in several of the following areas: data structures, pattern matching, cryptography, parallel computing, distributed computing, and interactive proof systems.

**Prerequisite(s):** CS 154 or CS 155.

**Grading:** Graded

*CS 265 - Cryptography and Computer Security*

3 unit(s)

Security mechanisms for protecting information in computer systems and networks. Includes cryptography and its applications to security services in distributed systems, mathematics of cryptography, access control, protection

models, security policies, design of secure systems, firewalls, and intrusion detection.

**Prerequisite(s):** CS 149 or instructor consent.

**Grading:** Graded

*CS 266 - Topics in Information Security*

*3 unit(s)*

Advanced topics in the area of information security. Content differs with each offering. Possible topics include, but are not restricted to: Network Security, Software Reverse Engineering and Cryptanalysis.

**Prerequisite(s):** CS 166 or instructor consent.

**Grading:** Graded

*CS 267 - Topics in Database Systems*

*3 unit(s)*

Advanced topics in the area of database and information systems. Content differs in each offering. Possible topics include though not restricted to: Data Mining, Distributed Databases and Transaction Processing.

**Prerequisite(s):** CS 157B.

**Grading:** Graded

*CS 268 - Topics in Wireless Mobile Networking*

*3 unit(s)*

Advanced topics in the area of wireless mobile networking. Content may differ in each offering. Possible topics include though not restricted to: wireless local and metropolitan area networks, mobile Internet, sensor networks, mobile computing, wireless network security. Repeatable when topic changes.

**Prerequisite(s):** CS 158A.

**Grading:** Graded

*CS 271 - Topics in Machine Learning*

*3 unit(s)*

Variable topics in machine learning. Content may include hidden Markov models, principal component analysis, support vector machines, clustering, boosting, random forests, neural networks, and deep learning. Relevant applications will be covered.

**Grading:** Graded

*CS 274 - Topics in Web Intelligence*

*3 unit(s)*

Topics in web intelligence including finding similar items, mining data streams, link analysis, frequent itemsets, advertising on the web, recommender systems, and mining social-network graphs. Relevant applications will be covered. Significant programming project is required.

**Prerequisite(s):** CS 157A or instructor consent.

**Grading:** Graded

*CS 280 - Graduate Individual Studies*

1-3 unit(s)

Individual study in specific field.

**Prerequisite(s):** Department chair consent. Not available to Open University Students

**Grading:** Credit/No Credit

*CS 286 - Advanced Topics in Computer Science*

3 unit(s)

Selected topics in computer science. Topics vary each semester and may be repeated for a maximum of 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Suitable upper division background in mathematics and computer science as set by instructor.

**Grading:** Graded

*CS 297 - Preparation for Writing Project or Thesis*

3 unit(s)

Supervised individual research and project work to prepare for a master's writing project or thesis.

**Prerequisite(s):** Fully classified standing in the MSCS program, department chair consent. Not available to Open University Students.

**Pre/Corequisite(s):** CS 200W

**Grading:** Credit/No Credit

*CS 298 - Master's Writing Project*

3 unit(s)

**Prerequisite(s):** CS 297 or CS 240, and department chair consent and admission to candidacy for the MS degree. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CS 298B - Bioinformatics Master's Project*

3 unit(s)

Supervised individual research of an advanced character for the completion of the masters project.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Fully classified standing in the MS in Bioinformatics program and department chair consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CS 299 - Master's Thesis*

3 unit(s)

**Prerequisite(s):** CS 297 and department chair consent and admission to candidacy for the MS degree. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*CS 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project beyond minimum required units, for cases in which final deliverables are still in progress.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** RP grade in a preceding thesis or project semester.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MATH 243A - Numerical Solution of PDEs*

3 unit(s)

Finite difference methods applied to parabolic, elliptic and hyperbolic equations including numerical methods for solving the discretized problem, convergence, stability, error control, and applications.

**Prerequisite(s):** MATH 143C or MATH 143M or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

## Department of Geology

**Office:** Duncan Hall 321

**Telephone:** 408-924-5050 (Voice); 408-924-5053 (Fax)

**Email:** [undergradadvisor-geology@sjsu.edu](mailto:undergradadvisor-geology@sjsu.edu); [gradadvisor-geology@sjsu.edu](mailto:gradadvisor-geology@sjsu.edu)

**Website:** [www.sjsu.edu/geology](http://www.sjsu.edu/geology)

### Professors

Emmanuel Gabet, Graduate Advisor

Paula Messina

Ellen P. Metzger

Jonathan Miller, Chair

Robert B. Miller

June A. Oberdorfer

Donald L. Reed

### Assistant Professors

Kimberly Blisniuk, Undergraduate Advisor

Nathaniel Bogie

Carlie Pietsch

Ryan Portner

## Overview

Rocks, soil, minerals, fossils, oceans, earthquakes, volcanoes, climate change-the Department of Geology specializes in increasing students' understanding of the Earth and its geological features. We offer general education courses, K-12 teacher training and professional development, a rigorous, integrated undergraduate curriculum and graduate courses and research. Our bachelor's degree program in geology prepares students for graduate study in the geosciences as well as for entry-level positions in geological and environmental consulting firms, regulatory agencies and other employment settings. Our bachelor's program in earth science is designed to help students master the content needed for successful completion of the California Commission on Teaching Credentialing's California Subject Examinations for Teachers, and provides a career path for students interested in becoming secondary school teachers. Our master's degree program particularly emphasizes the study of applied geology, surface processes, and tectonics, enabling graduates to advance to Ph.D programs and to secure jobs as geologists, engineering geologists, hydrogeologists, geophysicists and environmental managers.

## Geology and Earth Science Honors Program

Departmental honors in the BS Geology and Earth Science degree programs are awarded to those majors who have achieved a 3.5 grade point average in their required departmental courses and have completed an undergraduate research project. A proposal for undergraduate research, including an identified Geology faculty supervisor, must be approved by the Geology honors committee for acceptance into the honors program. Completion of two units of Geology 180 and both written and oral presentation of research results are required for completion of the program.

## Undergraduate

### Earth Science, BA

This major, offered by the Department of Geology, provides broad background in the earth sciences. Students interested in teaching science in high school or middle school should take the specified elective courses (consult with the advisor as needed).

Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

#### Summary of Degree Units

University Graduation Requirements	38
Major Preparation	29
Major Requirements	25-27
University Electives	26-28
<b>Total</b>	<b>120</b>

#### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

## Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

## Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

## General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (38 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (29 units)

- ASTR 101 - Modern Astronomy 3 *unit(s)* (R)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 19 - Precalculus 5 *unit(s)* (B4)

## Complete One Course From:

- METR 113 - Atmospheric Pollution 3 *unit(s)* (R)
- METR 112 - Global Climate Changes 3 *unit(s)* (R)

## Complete One Course Sequence From:

### Fundamental

*A and B must be taken to meet requirement*

- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

### General Physic

*PHYS 50 and PHYS 51 must be taken to meet requirement*



- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)

## Major Requirements (25-27 units)

### Core Courses

- GEOL 1 - General Geology 4 unit(s) (B1B3)
- GEOL 7 - Earth, Time and Life 4 unit(s) (B1+B3)
- GEOL 28 - Geology Outdoors 1 unit(s)
- GEOL 100W - Writing Workshop 3 unit(s) (Z)
- GEOL 105 - General Oceanography 3 unit(s) (R)
- GEOL 145 - Earth System Science 4 unit(s)

### Complete Two Courses From:

- GEOL 120 - Fundamentals of Mineralogy 3 unit(s)
- GEOL 122 - Petrology 4 unit(s)
- GEOL 124 - Sedimentology and Stratigraphy 3 unit(s) (R)
- GEOL 125 - Structural Geology 4 unit(s)
- GEOL 134 - Geomorphology 4 unit(s)
- GEOL 137 - Introduction to GPS/GIS for Geologic Applications 4 unit(s)

## University Electives (26-28 units)

*At least 11 units of University Electives must be in Upper Division.*

Teacher Candidates should take:

- CHEM 120S - Chemical Safety Seminar 1 unit(s)
- BIOL 20 - Ecological Biology 3 unit(s) (B2+B3)
- BIOL 21 - Human Biology 3 unit(s) (B2+B3)

## Total Units Required (120 units)

## Geology, BS

- Department of Geology
- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 35

Major Preparation 21

Major Requirements	50-54
University Electives	12-14
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### Major Exceptions

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

#### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (21 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- CHEM 1B - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)

### Complete One Sequence From:

#### Fundamentals

- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

#### General Physics

- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)

## Major Requirements (50-54 units)

### Core Courses (30-32 units)

- GEOL 1 - General Geology 4 *unit(s)* (B1+B3)
- GEOL 7 - Earth, Time and Life 4 *unit(s)* (B1+B3)
- GEOL 28 - Geology Outdoors 1 *unit(s)*
- GEOL 100W - Writing Workshop 3 *unit(s)* (Z)
- GEOL 120 - Fundamentals of Mineralogy 3 *unit(s)*
- GEOL 122 - Petrology 4 *unit(s)*
- GEOL 124 - Sedimentology and Stratigraphy 3 *unit(s)* (R)
- GEOL 125 - Structural Geology 4 *unit(s)*
- GEOL 129A - Introductory Field Geology 2 *unit(s)*

### Complete One Course From:

- GEOL 129B - Advanced Field Geology 4 *unit(s)*
- GEOL 129C - Intermediate Field Geology 2 *unit(s)*

### Geology Electives (20-24 units)

Complete 20-24 units from:

- GEOL 127 - Tectonics 3 *unit(s)*
- GEOL 130 - Marine Geology 4 *unit(s)*
- GEOL 134 - Geomorphology 4 *unit(s)*
- GEOL 135 - Geochemistry 4 *unit(s)*
- GEOL 137 - Introduction to GPS/GIS for Geologic Applications 4 *unit(s)*
- GEOL 138 - Hydrogeology 4 *unit(s)*
- GEOL 140 - Principles of Engineering Geology 4 *unit(s)*
- GEOL 142 - Paleontology 4 *unit(s)*
- GEOL 143 - Active Tectonics 4 *unit(s)*
- GEOL 147 - Introduction to Applied Geophysics 4 *unit(s)*
- GEOL 174 - Hazardous Materials 3 *unit(s)*
- GEOL 180 - Individual Studies 1-3 *unit(s)*
- MS 141 - Geological Oceanography 4 *unit(s)*

### University Electives (12-14 units)

MATH 31 recommended for graduate school or technical careers

### Total Units Required (120 units)

## Master

## Geology, MS

The MS program provides graduates with advanced training in Geology, culminating in the completion of an independent research thesis project. The academic curriculum and extensive faculty expertise provide the opportunity for study in many areas of Geology, with a particular emphasis on applied geology and tectonics. Graduates are employed as geologists, engineering geologists, hydrogeologists, hydrologists, geophysicists, environmental managers in engineering, geological, geophysical, and environmental consulting firms, and as geologists in the mining and petroleum industries.

The Department of Geology welcomes students with undergraduate degrees in other disciplines.

For more information visit [www.sjsu.edu/geology](http://www.sjsu.edu/geology).

## Admission Requirements

Candidates must meet all university admission requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements (typically because the student does not have a BS in Geology or related field), the conditions will include taking the core Geology BS courses to meet their requirements.

The GRE is not required.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Requirements for Admission to Graduate Candidacy

### University Candidacy Requirements

A student is eligible for admission to candidacy for the MS degree in Geology after the student has fulfilled the general all-university requirements for advancement to candidacy as outlined in the Academic Regulations section of this catalog and the department requirements. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. In addition, the student's admission must be approved by the departmental graduate advisor.

### Department Candidacy Requirements

The student will prepare a written thesis proposal in consultation with her/his thesis adviser. The student will defend her/his proposal in an oral examination with her/his thesis advisor and a minimum of two other thesis committee members

## Requirements for Graduation

# University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Geology Department Requirements

An approved program for each candidate may be designed in consultation with the advisor on the basis of each individual's objectives. The program shall include at least 30 semester units earned beyond the bachelor's degree in 200-level and 100-level courses approved for graduate credit. This total includes 4 semester units of thesis research. At least 12 units must consist of 200-level courses. All students are required to take a 2-unit seminar (GEOL 285). All candidates are required to submit a master's thesis.

An oral presentation of thesis research is to be made before an open meeting of the Geology Department. The thesis must be approved by the student's thesis committee and submitted in final form, as defined in the SJSU Master's Thesis and Doctoral Dissertation Guidelines, to the Graduate Division of the university in accordance with published deadlines.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Master's Requirements (30 units)

#### Core (14 units)

- GEOL 285 - Seminar 2 *unit(s)*

#### Complete Twelve Units From:

- GEOL 213 - Advanced Igneous and Metamorphic Petrology 4 *unit(s)* (GWAR)
- GEOL 214 - Sedimentary Petrology and Petrography 4 *unit(s)*
- GEOL 222 - Advanced Sedimentary Geology 4 *unit(s)*
- GEOL 231 - Advanced Structural Geology 4 *unit(s)* (GWAR)
- GEOL 234 - Advanced Geomorphology 4 *unit(s)* (GWAR)
- GEOL 237 - Advanced GIS/GPS Mapping 4 *unit(s)*
- GEOL 238 - Advanced Hydrogeology 4 *unit(s)* (GWAR)
- GEOL 242 - Advanced Paleontology 4 *unit(s)*
- GEOL 255 - Advanced Geology 4 *unit(s)*

#### Electives (12 units)

Other 100-level or 200-level courses, selected with advisor approval. GEOL 285 may be taken a second time.

#### Culminating Experience (4 units)

**Plan A (Thesis)**

- GEOL 299 - Master's Thesis *1-4 unit(s) (1 unit of GEOL 299 in each of four semesters is recommended)*
- Thesis Defense (oral presentation)

**Total Units Required (30 units)**

Elective courses must be planned in consultation with the Geology Department Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

**Minor****Geology Minor**

The Department of Geology offers a baccalaureate minor to supplement a major in some fields. The geology minor consists of at least 15 units, at least six of which must be upper division courses, selected in consultation with the geology advisor.

**University Graduation Requirements**

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

**Minor Requirements (15 units)****Core Courses (9 units)**

- GEOL 1 - General Geology *4 unit(s) (B1+B3)*
- GEOL 7 - Earth, Time and Life *4 unit(s) (B1+B3)*
- GEOL 28 - Geology Outdoors *1 unit(s)*

**Electives (6 units)**

Complete six units from:

- GEOL 105 - General Oceanography *3 unit(s) (R)*
- GEOL 107 - Prehistoric Life *3 unit(s) (R)*
- GEOL 111 - Geology and the Environment *3 unit(s) (R)*
- GEOL 112 - Hazards, Risks of Earthquakes and Volcanoes *3 unit(s) (R)*
- GEOL 120 - Fundamentals of Mineralogy *3 unit(s)*
- GEOL 122 - Petrology *4 unit(s)*
- GEOL 124 - Sedimentology and Stratigraphy *3 unit(s) (R)*
- GEOL 125 - Structural Geology *4 unit(s)*
- GEOL 134 - Geomorphology *4 unit(s)*
- GEOL 135 - Geochemistry *4 unit(s)*

- GEOL 137 - Introduction to GPS/GIS for Geologic Applications 4 unit(s)
- GEOL 138 - Hydrogeology 4 unit(s)
- GEOL 142 - Paleontology 4 unit(s) (or other geology courses selected with advisor approval (at least one upper division course must include a lab))

## Total Units Required (15 units)

### *GEOL 1 - General Geology*

4 unit(s)

Examination of geologic processes and materials, including volcanoes, earthquakes, rock formation, oceans, streams, and plate tectonics and their importance to society.

*Misc/Lab: Lecture 3 hours/Lab 3 hours and field trips.*

*Satisfies B1 + B3: Physical + Lab Science*

**Grading:** Graded

### *GEOL 1L - General Geology Laboratory*

1 unit(s)

Supplement to general lecture courses in Earth science or geology.

*Misc/Lab: Lab 3 hours.*

**Pre/Corequisite(s):** GEOL 2, GEOL 1, GEOL 6 or GEOL 111.

**Grading:** Graded

### *GEOL 2 - Geology for Engineers*

3 unit(s)

This course provides a foundational introduction to geology as applied to civil engineering. The course focuses on learning and applying knowledge of geologic processes to civil engineering works, decision making, and evaluating the suitability of areas for urban infrastructure based upon geologic evidence and reasoning. Fieldtrips are required and may include weekends.

**Prerequisite(s):** Enrolled as Civil Engineering Major

**Grading:** Graded

### *GEOL 3 - Planet Earth*

3 unit(s)

Origins and processes of Earth's interconnected physical and chemical systems, including aspects of astronomy, geology, meteorology, and oceanography. Impacts of these systems on humans, and of humans on the systems.

*Satisfies B1: Physical Science*

**Grading:** Graded

### *GEOL 4L - Earth Systems Lab*



1 unit(s)

Hands-on investigations, measurements, and analysis of Earth's materials, processes, and hazards. Supplements general lecture courses in Geology.

*Misc/Lab: Lab 3 hours.*

*Satisfies B3: Laboratory Science*

**Grading:** Graded

*GEOL 5 - Human Development and the Natural World*

3 unit(s)

Introductory course examining the role of the natural world on the physiological, social, and psychological development of human beings within the context of the environmental, social, and academic community system.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*GEOL 6 - Geology of California*

3 unit(s)

California's geology, illustrating physical processes, landscapes, geologic history and resources. California's seismic, volcanic, landslide and flooding hazards, and their impact on society.

*Misc/Lab: Lecture 3 hours/field trips.*

*Satisfies B1: Physical Science*

**Grading:** Graded

*GEOL 7 - Earth, Time and Life*

4 unit(s)

Earth's geosphere: processes that act on it and materials that comprise it; how rocks and fossils are used to interpret the history of Earth's geosphere, atmosphere, oceans, and life forms.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Grading:** Graded

*GEOL 8 - The Age of the Dinosaurs*

3 unit(s)

Scientific overview of the Mesozoic Era, or "age of dinosaurs." The course will focus on the evolution of dinosaurs and other contemporaneous life forms, as well as the mass extinction events that mark the beginning and end of the Mesozoic.

*Satisfies B2: Life Science*

**Grading:** Graded

*GEOL 9 - Earth Disasters*

4 unit(s)

Exploration of natural disasters related to earth processes, including earthquakes, volcanoes, landslides, tsunamis, flooding, and climate change, and their impacts on society.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Grading:** Graded

*GEOL 28 - Geology Outdoors*

1 unit(s)

Hands-on introduction to geology in a variety of field settings. Develop your observational skills at several of California's spectacular geologic attractions. Includes one-day field trips, a multi-day field trip, and short written reports.

**Prerequisite(s):** Completion of or co-enrollment in GEOL 3, GEOL 4L, and GEOL 7.

**Grading:** Credit/No Credit

*GEOL 92 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*GEOL 100W - Writing Workshop*

3 unit(s)

Advanced writing, including planning and preparation of scientific reports. Improvement of skills needed for writing scientific reports, project proposals and resumes through practice and evaluation. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Pre/Corequisite(s):** Completion of or co-enrollment in GEOL 125, or instructor consent.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*GEOL 103 - Earth Systems and the Environment*

3 unit(s)

Fundamental earth/space science concepts. Emphasis on active learning and guided inquiry. Recommended for students preparing for multiple subject credential. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** PHYS 1 or CHEM 30A, Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 104 - Earth Science Teacher Enhancement*

*0.5-3 unit(s)*

A thematic approach to the study of regionally significant topics, including earthquakes, landslides and volcanoes. Development of hands-on classroom activities. Normally offered through University Continuing Education. Field trips.

**Prerequisite(s):** Teaching credential and instructor consent.

**Grading:** Credit/No Credit

*GEOL 105 - General Oceanography*

*3 unit(s)*

Scientific examination of the impact of oceans on global society, and human impacts on the oceans, through classroom discussions, computer exercises and field trips. GE Area: R.

*Lecture 3 hours/field trips.*

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 107 - Prehistoric Life*

*3 unit(s)*

Integrated interdisciplinary examination of the fossil record, including information from the fields of paleontology, genetics and cosmology that aids in the understanding of organic evolution and periodic massive extinctions. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 108 - Water, Ecosystems and Society*

3 unit(s)

Interdisciplinary investigation of hydrologic systems and their interactions with biologic communities and with society. Streams, lakes, estuaries, groundwater and the safety and protection of water resources.

*Misc/Lab: Lecture 3 hours/field trips.*

**Prerequisite(s):** Upper division standing.

**Grading:** Graded

*GEOL 111 - Geology and the Environment*

3 unit(s)

The effect of Earth processes on humans and their structures. Environmental problems related to earthquakes, landslides, minerals, energy, water and urban growth.

*Lecture 3 hours/field trips.*

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** GE Area: R Prerequisite(s): Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 112 - Hazards, Risks of Earthquakes and Volcanoes*

3 unit(s)

How, where and why earthquakes and volcanic eruptions occur. Analysis of hazards posed by earthquakes and volcanoes. Risks incurred by humankind due to these hazards. Minimizing risk; economic, social and political problems associated with earthquakes. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 120 - Fundamentals of Mineralogy*

3 unit(s)

Laboratory course designed to give students basic skills for identifying minerals and basic understanding of geologic processes that form minerals. Emphasis is on hand specimen and microscope identification.

*Misc/Lab: Lecture 2 hours / Lab 3 hours*

**Prerequisite(s):** GEOL 1 and GEOL 7.

**Grading:** Graded

*GEOL 122 - Petrology*

4 unit(s)

Identification of minerals and rocks in hand sample and under the microscope. Processes of formation, description, and classification of igneous, sedimentary and metamorphic rocks.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 120; completion of or co-enrollment in CHEM 1A.

**Grading:** Graded

*GEOL 124 - Sedimentology and Stratigraphy*

3 unit(s)

Study of the origin and description of sediment and sedimentary rocks; study of the formation, sequence, and correlation of stratified rocks.

*Misc/Lab; Lecture 2 hours/lab 3 hours.*

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** GEOL 1 and GEOL 7.

**Grading:** Graded

*GEOL 125 - Structural Geology*

4 unit(s)

Recognition, interpretation and representation of structures of the Earth's crust. Analysis of basic principles of rock deformation.

*Misc/Lab: Lecture 3 hours/lab and field 3 hours.*

**Prerequisite(s):** MATH 19, GEOL 1, GEOL 7, GEOL 28

**Grading:** Graded

*GEOL 127 - Tectonics*

3 unit(s)

Description of large-scale features of the Earth's crust and upper mantle and the processes which formed them. Emphasis on plate tectonics and its implications for the evolution of North America.

**Prerequisite(s):** GEOL 100W, GEOL 122, GEOL 124, GEOL 125.

**Grading:** Graded

*GEOL 129A - Introductory Field Geology*

2 unit(s)

Introductory level field methods, field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year. Field Trip Fees Required.

**Prerequisite(s):** GEOL 120, GEOL 122, GEOL 124 and GEOL 125 or permission of instructor

**Grading:** Graded

*GEOL 129B - Advanced Field Geology*

4 unit(s)

Geologic field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year.

*Misc/Lab: Lab 6-12 hours.*

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** GEOL 122, GEOL 124, GEOL 125, or Permission of Instructor

**Grading:** Graded

*GEOL 129C - Intermediate Field Geology*

2 unit(s)

Intermediate level field methods, field mapping and interpretation of geologic and tectonic history. Students stay at camp sites that vary from year to year.

**Prerequisite(s):** GEOL 120, GEOL 122, GEOL 124 and GEOL 125 or permission of instructor

**Grading:** Graded

*GEOL 130 - Marine Geology*

4 unit(s)

Introduction to the geology of continental margins and ocean basins. Discussions focus on crustal structures and the effect of plate tectonics and oceanographic processes on modern marine sedimentation.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 1 or GEOL 7; GEOL 3 with instructor approval.

**Grading:** Graded

*GEOL 134 - Geomorphology*

4 unit(s)

Earth's surficial processes and landforms; effects of tectonics, climate and geology; landscape evolution. Landform interpretation using maps; surface water hydrology; applications.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 1 and GEOL 7, or instructor consent; 1 year of college calculus and physics recommended.

**Grading:** Graded

*GEOL 135 - Geochemistry*

4 unit(s)

Application of geochemical and thermodynamic principles to solution of geologic problems. Topics include: equilibrium-disequilibrium reactions, major and trace element behavior, isotope systematics and modern analytical methods.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 122 and CHEM 1B (or equivalent).  
**Grading:** Graded

*GEOL 137 - Introduction to GPS/GIS for Geologic Applications*

*4 unit(s)*

Introduction to digital geologic mapping and analysis using Trimble GPS and ArcView GIS.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 1 and GEOL 7, or instructor consent. Computer literacy assumed.  
**Grading:** Graded

*GEOL 138 - Hydrogeology*

*4 unit(s)*

Geological principles of the occurrence, accumulation and migration of water; groundwater as a manageable resource; groundwater geochemistry and contaminant transport.

*Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 125 or instructor consent. Recommend: MATH 32 or MATH 32X, and GEOL 135.  
**Grading:** Graded

*GEOL 140 - Principles of Engineering Geology*

*4 unit(s)*

Qualitative and quantitative analysis of geologic factors influencing site selection, development and use; methods of data collection, interpretation and presentations.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 125.  
**Grading:** Graded

*GEOL 142 - Paleontology*

*4 unit(s)*

Study of the major groups of invertebrate fossils and their use in geological studies; principles of stratigraphy, including seismic stratigraphy.

*Misc/Lab: Lecture 2 hours/lab and field trips 3 hours.*

**Prerequisite(s):** GEOL 1 and GEOL 7.  
**Grading:** Graded

*GEOL 143 - Active Tectonics*

*4 unit(s)*

This course will introduce students to the interdisciplinary field of Active Tectonics. The aim of the course is to provide students with a comprehensive and quantitative understanding of the tectonic and surficial processes that shape the

Earth's surface.

*Misc/Lab: Lecture 4 hours/Lab 3 hours*

**Prerequisite(s):** GEOL 1, GEOL 7, and GEOL 28. GEOL 137 recommended.

**Grading:** Graded

*GEOL 145 - Earth System Science*

*4 unit(s)*

Exploration of the interconnected systems and processes that have driven Earth's evolution over time and continue to function today. Capstone course that includes course projects and labs.

**Prerequisite(s):** GEOL 1, GEOL 7 or instructor consent

**Corequisite(s):** One semester of Chemistry

**Grading:** Graded

*GEOL 147 - Introduction to Applied Geophysics*

*4 unit(s)*

Introduction to modern geophysical techniques with emphasis and environmental applications. Field techniques and case histories.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** PHYS 2A and PHYS 2B (or equivalent). GEOL 100W. GEOL 1, GEOL 7

**Grading:** Graded

*GEOL 150 - Field Studies in Natural History*

*1-2 unit(s)*

Field courses given on site, typically covering general ecology, botany, geology, zoology and specialized natural areas such as Baja California, Death Valley, seacoasts and mountains. Repeatable for up to a total of 3 units of credit when location or content changes.

*Satisfies B3: Laboratory Science*

**Grading:** Graded

**Note(s):** Not an elective in the department majors.

*GEOL 168A - Global Climate Change I*

*6 unit(s)*

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded



**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 168B - Global Climate Change II*

3 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

*Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding*

**Prerequisite(s):** COMM 168A / ENVS 168A / GEOL 168A / HUM 168A / METR 168A; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*GEOL 174 - Hazardous Materials*

3 unit(s)

Review of current methods and procedures for management of hazardous materials and hazardous wastes; analysis of contaminated systems and remedial actions.

**Prerequisite(s):** PHYS 51, PHYS 52, or PHYS 71 and CHEM 1A or instructor consent.

**Grading:** Graded

*GEOL 180 - Individual Studies*

1-3 unit(s)

Advanced lab or field work.

**Prerequisite(s):** Instructor consent. Not available to Open University Students

**Grading:** Credit/No Credit

*GEOL 184 - Directed Reading*

1-3 unit(s)

Reading of books, journals and papers chosen to fill gaps in training. Evaluation through weekly reports and conference.

**Prerequisite(s):** Not available to Open University Students

**Grading:** Credit/No Credit

*GEOL 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*GEOL 204 - Earth Systems Science for Teachers*

3 unit(s)

Peer teaching and leadership instruction in earth science. Demonstrations, classroom activities, field projects and teaching strategies for K-12 teacher groups.

**Prerequisite(s):** Teaching credential and instructor consent.

**Grading:** Graded

*GEOL 213 - Advanced Igneous and Metamorphic Petrology*

4 unit(s)

Igneous and metamorphic processes and the evolution of the lithosphere. Application of field, petrographic and chemical data to models of petrogenesis. Laboratory emphasizes microscope studies and computer modeling.

*Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** GEOL 121 (or equivalent).

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOL 214 - Sedimentary Petrology and Petrography*

4 unit(s)

Petrographic study of sedimentary rocks with application of petrographic information to reconstructions of source terranes, depositional conditions and diagenesis. Discussion of nature and origin of carbonate and terrigenous components is emphasized.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** GEOL 124 and GEOL 213 or instructor consent.

**Grading:** Graded

*GEOL 222 - Advanced Sedimentary Geology*

4 unit(s)

Analysis of sedimentary facies, patterns of facies architecture and major controls on evolution of sedimentary basins.

*Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.*

**Prerequisite(s):** GEOL 123 and GEOL 127.

**Grading:** Graded

*GEOL 231 - Advanced Structural Geology*

4 unit(s)

Analysis of deformed rocks with emphasis on deformation mechanisms, small-scale structures, shear zones, faults and folds. Techniques of strain analysis and analyzing structure on maps are emphasized in the laboratory.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** GEOL 125.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOL 234 - Advanced Geomorphology*

*4 unit(s)*

We will investigate the role of geomorphology in affecting large-scale processes such as mountain uplift and the global climate. Coursework will include the manipulation of data sets from the Himalayas, topographic analysis of the Sierra Nevada, and modelling with Matlab.

*Misc/Lab: Lecture 3 hours/lab 3 hours; 3-day field trip required.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** GEOL 134 or equivalent

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOL 237 - Advanced GIS/GPS Mapping*

*4 unit(s)*

Advanced methods of ArcGIS mapping and analysis using published digital datasets and/or student-generated Differential GPS files. Topics vary, depending on student interest, but are generally limited to natural sciences.

*Misc/Lab: Lecture 4 hour/Lab 3 hours*

**Prerequisite(s):** GEOL 137 or instructor consent.

**Grading:** Graded

*GEOL 238 - Advanced Hydrogeology*

*4 unit(s)*

Numerical methods in groundwater modeling, vadose zone monitoring and transport and geochemistry of natural and contaminated waters.

*Misc/Lab: Lecture 3 hours/lab 3 hours; field trips.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** GEOL 138 or instructor consent.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*GEOL 242 - Advanced Paleontology*

4 unit(s)

The lecture portion of this course will be conducted as a seminar; students will read and discuss classic and important newer papers on macroevolutionary theory and paleobiology. In the lab portion of this course, students will use fossil samples to develop and test scientific hypotheses that will be part of a semester-long project.

*Misc/Lab: Lecture 4 hours/Lab 3 hours.*

**Prerequisite(s):** Suitable background in geology or evolutionary biology.

**Grading:** Graded

*GEOL 255 - Advanced Geology*

4 unit(s)

Selected topics in geology. Topics change with each offering.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Suitable background in geology.

**Grading:** Graded

*GEOL 285 - Seminar*

2 unit(s)

Fundamental problems in geology. Topics change with each offering. May be repeated when content changes.

*Misc/Lab: Discussion 2 hours.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*GEOL 298 - Research*

1-4 unit(s)

Advanced individual study in geology.

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*GEOL 299 - Master's Thesis*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree. Not available to Open University Students

**Grading:** Mandatory CR/NC/RP

*GEOL 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis.

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a thesis class  
**Grading:** CR/NC, No Degree Credit

## Department of Mathematics and Statistics

**Office:** MacQuarrie Hall 308

**Telephone:** 408-924-5100

**Email:** math-info@sjsu.edu

**Website:** www.sjsu.edu/math

### Professors

Martina Bremer  
Bem Cayco-Gajic, Chair  
Steven Crunk  
Tim Hsu  
Hidefumi Katsuura  
Plamen Koev  
Richard P. Kubelka  
Bee Leng Lee  
Ho Kuen Ng  
Samih A. Obaid  
Barbara J. Pence  
Ferdinand Rivera  
Cheryl Roddick  
Mohammad Saleem  
Slobodan Simic  
Wasin So  
Julie Sliva Spitzer

### Associate Professors

Andrea Gottlieb

### Assistant Professors

Daniel Brinkman  
Sara Calandrini  
Marion Campisi  
Guangliang Chen  
Dashiell Fryer  
Jesse Geneson  
Kyle Hambrook  
Sogol Jahanbekam  
Matthew Johnston  
Wesley Maciejewski  
Jordan Schettler  
Liam Stanton  
Cristina Tortora  
Yan Zhang

## Overview

One of the oldest intellectual disciplines, mathematics plays a key role in many fields: cryptography, computer graphics, operations research, engineering and science. Students majoring in mathematics learn to communicate mathematical ideas effectively and to use basic computational skills, mathematical models and technology to solve practical problems. The Department of Mathematics and Statistics offers both undergraduate and graduate programs that prepare our alumni to work in industry and to teach in secondary schools or community colleges. In addition to a BA in mathematics, we offer a BS in applied mathematics that trains students for more technical careers and incorporates student research projects at the Center for Applied Mathematics, Computation and Statistics (CAMCOS). We also offer four master's degrees: an MS and an MA in mathematics.

## Honors Program

The requirements for mathematics majors to graduate with departmental honors are: (1) at least a 3.0 G.P.A. overall, (2) at least a 3.5 G.P.A. in the major, (3) Completion of MATH 180H (Individual Studies for Honors).

## Restriction on Enrollment for Credit

Enrollment for credit in MATH 10, MATH 12, MATH 18A, MATH 70, MATH 71, MATH 101, MATH 105, MATH 106, MATH 107A, and MATH 107B will not be allowed for students who have received credit in MATH 19, MATH 30, MATH 31, MATH 32, unless the particular course in question is required for the student's major, minor or credential requirements.

## Precalculus Proficiency Assessment (PPA)

Many students who wish to enroll in MATH 30, MATH 30X, MATH 71 or MATH 71X are required to take the Precalculus Proficiency Assessment (PPA). Information regarding the PPA can also be found in the Mathematics and Statistics Department website.

## Undergraduate

### Applied Mathematics, Applied and Computational Mathematics Concentration, BS

This degree is recommended for students who wish to work in the research and development area of industry. This program also prepares a student for graduate study in applied mathematics, numerical analysis, or operations research.

The concentration in Applied and Computational Mathematics, offered by the Department of Mathematics and Statistics, provides a solid foundation in classical applied mathematics as well as computational mathematics, which could be informally described as "how to employ mathematics on computers wisely." A graduate could seek direct employment assisting a group of scientists with the formulation and solution of problems. There is a great need in local and national technical industries for people with sufficiently strong mathematical knowledge to participate on such teams. For example, modern techniques for solving partial differential equations are very sophisticated; the best method in a given situation depends on the properties of the model. Once a numerical approximation has been

formulated, the techniques to solve that, and the commercial software available to do it, again require informed decisions.

24 upper division units of mathematics are required for this degree. If upper division requirements are fulfilled using transferred lower division courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 47

Major Preparation 25

Major Core Requirements 28

Specialized Tracks 15

University Electives 5

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (47 units)

### Core Lower Division General Education (30 units)

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (25 units)

- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 46B - Introduction to Data Structures 4 *unit(s)*
- MATH 100W - Technical Writing Workshop 3 *unit(s)* (Z)



- 8 units from Economics, Science or Engineering. The choices must be approved by the Mathematics and Statistics Department *8 unit(s)*
- 6 additional upper division units from Math, CS, Science, Engineering, Economics. All of these units can be in MATH 203 or similar applied mathematics projects. The choices must be approved by the Mathematics and Statistics Department *6 unit(s)*

## Major Requirements (43 units)

### Lower Division Requirements (19 units)

- MATH 30 - Calculus I *3 unit(s) (B4)*  
*MATH 30X may be used instead of MATH 30.*
- MATH 31 - Calculus II *4 unit(s) (B4)*  
*MATH 31X may be used instead of MATH 31.*
- MATH 32 - Calculus III *3 unit(s) (B4)*  
*MATH 32X may be used instead of MATH 32.*
- MATH 34 - Ordinary Differential Equations *3 unit(s)*
- MATH 39 - Linear Algebra I *3 unit(s)*
- MATH 42 - Discrete Mathematics *3 unit(s)*  
*MATH 42X may be used instead of MATH 42.*

### Upper Division Requirements (24 units)

- MATH 143M - Numerical Analysis and Scientific Computing *3 unit(s)*
- MATH 161A - Applied Probability and Statistics I *3 unit(s)*

### Complete One Course From:

- MATH 134 - Ord. Diff. Eqns and Dynamical Systems *3 unit(s)*
- MATH 170 - Mathematical Modeling for the Life Sciences *3 unit(s)*
- MATH 177 - Linear and Non-Linear Optimization *3 unit(s)*

### Specialized Track (15 units)

*Complete one of the following two tracks. Tracks are a cluster of courses used for advising purposes. Tracks will not appear on transcripts or diplomas. Please see an advisor in the Mathematics and Statistics department for more details.*

#### Applied Math Track

- MATH 132 - Advanced Calculus *3 unit(s)*
- MATH 133B - Partial Differential Equations *3 unit(s)*
- MATH 138 - Complex Variables *3 unit(s)*
- MATH 143C - Numerical Analysis and Scientific Computing *3 unit(s)*

### Complete One Course From:

- MATH 126 - Theory of Numbers *3 unit(s)*
- MATH 142 - Introduction to Combinatorics *3 unit(s)*
- MATH 146 - An Introduction to Mathematical Cryptography *3 unit(s)*
- MATH 179 - Introduction to Graph Theory *3 unit(s)*

### Applied Discrete Math Track

- MATH 142 - Introduction to Combinatorics *3 unit(s)*
- MATH 179 - Introduction to Graph Theory *3 unit(s)*

### Complete One Course From:

- MATH 127 - Applied and Industrial Algebra *3 unit(s)*
- MATH 163 - Probability Theory *3 unit(s)*

### Complete Two Courses (Not Counted Above):

- MATH 127 - Applied and Industrial Algebra *3 unit(s)*
- MATH 129B - Linear Algebra II *3 unit(s)*
- MATH 143C - Numerical Analysis and Scientific Computing *3 unit(s)*
- MATH 143M - Numerical Analysis and Scientific Computing *3 unit(s)*
- MATH 146 - An Introduction to Mathematical Cryptography *3 unit(s)*
- MATH 161B - Applied Probability and Statistics II *3 unit(s)*
- MATH 162 - Statistics for Bioinformatics *3 unit(s)*
- MATH 163 - Probability Theory *3 unit(s)*
- MATH 177 - Linear and Non-Linear Optimization *3 unit(s)*
- CS 116A - Introduction to Computer Graphics *3 unit(s)*
- CS 146 - Data Structures and Algorithms *3 unit(s)*
- CS 151 - Object-Oriented Design *3 unit(s)*
- CS 155 - Introduction to the Design and Analysis of Algorithms *3 unit(s)*
- CS 157A - Introduction to Database Management Systems *3 unit(s)*
- CS 159 - Introduction to Parallel Processing *3 unit(s)*

### University Electives (5 units)

### Total Units Required (120 units)

## Applied Mathematics, Statistics Concentration, BS

This degree program is recommended for students who wish to pursue a career in statistics. This program also prepares a student for graduate study in probability and statistics.

The concentration in Statistics, offered by the Department of Mathematics and Statistics, is appropriate for students pursuing a career involving the collection and analysis of numerical data, the use of statistical techniques to predict population growth or economic conditions, the use of statistics to analyze medical, environmental, legal and social problems, or to help business managers make decisions and carry out quality control. The statistics concentration also provides a solid foundation for students who plan to become actuaries.

33 upper division units of mathematics are required for this degree. If upper division requirements are fulfilled using transferred lower division courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements	47
Major Preparation	17
Major Requirements	49
University Electives	7
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (47 units)**

### **Core Lower Division General Education (30 units)**

Of the 39 units required by the university, 9 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (9 units)**

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### **American Institutions (6 units)**

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

**Complete One Sequence From:**

**African American Studies (6 units)**

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

**Asian American Studies (6 units)**

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

**Chicana and Chicano Studies (6 units)**

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

**U.S. History and Government (6 units)**

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

**Physical Education (2 units)**

**Graduation Writing Assessment Requirement**

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

**Major Preparation (17 units)**

- MATH 100W - Technical Writing Workshop 3 *unit(s)* (Z)
- 8 units from Economics, Business, Science, or Engineering. The choices must be approved by the Mathematics and Statistics Department 8 *unit(s)*
- 6 additional upper division units from Math, CS, Science, Engineering, Economics, or Business. All of these units can be in MATH 203 or similar applied mathematics projects. The choices must be approved by the Mathematics and Statistics Department 6 *unit(s)*

**Major Requirements (49 units)**

## Lower Division Requirements (16 units)

- MATH 30 - Calculus I 3 unit(s) (B4)  
*MATH 30X may be used instead of MATH 30.*
- MATH 31 - Calculus II 4 unit(s) (B4)  
*MATH 31X may be used instead of MATH 31.*
- MATH 32 - Calculus III 3 unit(s) (B4)  
*MATH 32X may be used instead of MATH 32.*
- MATH 39 - Linear Algebra I 3 unit(s)
- MATH 42 - Discrete Mathematics 3 unit(s)  
*MATH 42X may be used instead of MATH 42.*

## Upper Division Requirements (33 units)

- MATH 161A - Applied Probability and Statistics I 3 unit(s)
- MATH 161B - Applied Probability and Statistics II 3 unit(s)
- MATH 163 - Probability Theory 3 unit(s)
- MATH 164 - Mathematical Statistics 3 unit(s)
- MATH 167R - Statistical Programming with R 3 unit(s)

## Complete Eighteen Units From:

*Only one of MATH 131A or MATH 132 may be taken*

- MATH 112 - Vector Calculus 3 unit(s)
- MATH 131A - Introduction to Analysis 3 unit(s)
- MATH 132 - Advanced Calculus 3 unit(s)
- MATH 142 - Introduction to Combinatorics 3 unit(s)
- MATH 143C - Numerical Analysis and Scientific Computing 3 unit(s)
- MATH 143M - Numerical Analysis and Scientific Computing 3 unit(s)
- MATH 150 - Theory of Interest 3 unit(s)
- MATH 162 - Statistics for Bioinformatics 3 unit(s)
- MATH 170 - Mathematical Modeling for the Life Sciences 3 unit(s)
- MATH 178 - Mathematical Modeling 3 unit(s)

## University Electives (7 units)

## Total Units Required (120 units)

## Mathematics, BA

The BA - Mathematics, offered by the Department of Mathematics and Statistics, is recommended for students who enjoy problem solving and would like to apply problem solving skills along with communication and analyzing skills in a future career. This degree also provides an excellent background for graduate work in mathematics and other disciplines including law and medicine as well as engineering and science.

The degree requires 30 upper division units of mathematics and computer science. If upper division mathematics and computer science requirements are satisfied using lower division transferred courses, then additional upper division math courses will need to be taken to obtain the required number of upper division units.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 44

Major Preparation 12-15

Major Requirements 46

University Electives 15-18

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": MATH 100W

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (44 units)**

### **Core Lower Division General Education (27 units)**

Of the 39 units required by the university, 12 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements And should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or specific questions.**

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D1+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (12-15 units)

- MATH 100W - Technical Writing Workshop 3 *unit(s)* (Z)
- PHYS 50 - General Physics/Mechanics and one of PHYS 51, PHYS 52, or MATH 161A (or with prior approval, 6 units of upper division mathematics-related courses from other departments may be substituted). 7-8 *units* (B1+B3)

## Complete One Course From:

- MATH 50 - Scientific Computing I 2 *unit(s)*
- MATH 167R - Statistical Programming with R 3 *unit(s)*
- CS 46A - Introduction to Programming 4 *unit(s)*
- CS 49C - Programming in C 3 *unit(s)*
- CS 49J - Programming in Java 3 *unit(s)*

## Major Requirements (46 units)

### Core Courses (16 units)

- MATH 30 - Calculus I 3 *unit(s)* (B4) *MATH 30X may be used instead of MATH 30.*
- MATH 31 - Calculus II 4 *unit(s)* (B4)  
*MATH 31X may be used instead of MATH 31.*
- MATH 32 - Calculus III 3 *unit(s)* (B4)  
*MATH 32X may be used instead of MATH 32.*
- MATH 39 - Linear Algebra I 3 *unit(s)*
- MATH 42 - Discrete Mathematics 3 *unit(s)*  
*MATH 42X may be used instead of MATH 42.*

### Upper Division Core (15 units)

- MATH 108 - Introduction to Abstract Mathematics and Proofs 3 *unit(s)*
- MATH 128A - Abstract Algebra I 3 *unit(s)*
- MATH 131A - Introduction to Analysis 3 *unit(s)*

## Complete One Course From:

- MATH 112 - Vector Calculus 3 *unit(s)*
- MATH 113 - Differential Geometry 3 *unit(s)*
- MATH 115 - Modern Geometry and Transformations 3 *unit(s)*
- MATH 138 - Complex Variables 3 *unit(s)*

## Complete One Course From:

- MATH 128B - Abstract Algebra II 3 *unit(s)*
- MATH 129B - Linear Algebra II 3 *unit(s)*
- MATH 131B - Introduction to Real Variables 3 *unit(s)*



## Upper Division Mathematics Elective (15 units)

Complete five courses (not counted above) from:

- MATH 104 - History of Mathematics 3 unit(s)
- MATH 112 - Vector Calculus 3 unit(s)
- MATH 113 - Differential Geometry 3 unit(s)
- MATH 115 - Modern Geometry and Transformations 3 unit(s)
- MATH 126 - Theory of Numbers 3 unit(s)
- MATH 128B - Abstract Algebra II 3 unit(s)
- MATH 129B - Linear Algebra II 3 unit(s)
- MATH 131B - Introduction to Real Variables 3 unit(s)
- MATH 132 - Advanced Calculus 3 unit(s)
- MATH 133B - Partial Differential Equations 3 unit(s)
- MATH 134 - Ord. Diff. Eqns and Dynamical Systems 3 unit(s)
- MATH 138 - Complex Variables 3 unit(s)
- MATH 142 - Introduction to Combinatorics 3 unit(s)
- MATH 143C - Numerical Analysis and Scientific Computing 3 unit(s)
- MATH 143M - Numerical Analysis and Scientific Computing 3 unit(s)
- MATH 146 - An Introduction to Mathematical Cryptography 3 unit(s)
- MATH 150 - Theory of Interest 3 unit(s)
- MATH 161A - Applied Probability and Statistics I 3 unit(s)
- MATH 161B - Applied Probability and Statistics II 3 unit(s)
- MATH 162 - Statistics for Bioinformatics 3 unit(s)
- MATH 163 - Probability Theory 3 unit(s)
- MATH 164 - Mathematical Statistics 3 unit(s)
- MATH 177 - Linear and Non-Linear Optimization 3 unit(s)
- MATH 179 - Introduction to Graph Theory 3 unit(s)
- MATH 180 - Individual Studies 1-4 unit(s) *(Requires prior approval)*
- MATH 180H - Individual Studies for Honors 3 unit(s) *(Requires prior approval)*
- MATH 180R - Undergraduate Research in Mathematics 1-4 unit(s) *(Requires prior approval)*
- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 unit(s)

Complete One Course From:

- MATH 170 - Mathematical Modeling for the Life Sciences 3 unit(s)
- MATH 178 - Mathematical Modeling 3 unit(s)

## University Electives (15-18 units)

Total Units Required (120 units)

## Mathematics, Integrated Teacher Education Program, BA

This integrated major is designed for students interested in teaching mathematics in high school or middle school. The course work, satisfies requirements for (1) a BA in Mathematics, (2) a single subject teaching credential in mathematics (SSC), and (3) an education specialist instruction credential in mild to moderate disabilities (ESC). The

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements 29

Major Preparation 19-21

Major Core Requirements 40

Additional Requirements 32

**Total 120**

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major-Specific Graduation Requirements**

All courses in the Preparation and Required in the Major must be completed with a grade of "C- or better", and the following Preparation for the Major course with a grade of "C or better": ENGR 100W.

All credential courses in the Preparation and Required in the Major must be completed with a grade of "B" or better.

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (29 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education

Of the 9 units required by the university, 9 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

A grade of C or better (C- not accepted) is required to meet graduation requirement.

## Major Preparation (19-21 units)

- CHAD 60 - Child Development 3 unit(s) (E)
- ENGR 100W - Engineering Reports 3 unit(s) (ZR)
- MTED 184X - Student Teaching Phase I 4 unit(s)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1B3)

## Complete One Course From:

- CS 22A - Python Programming for Non Majors I 3 unit(s)
- CS 46A - Introduction to Programming 4 unit(s)
- CS 49C - Programming in C 3 unit(s)
- CS 49J - Programming in Java 3 unit(s)
- MATH 50 - Scientific Computing I 2 unit(s)
- MATH 167R - Statistical Programming with R 3 unit(s)

## Complete One Course From:

- CCS 30 - Race and Ethnicity in Public Space 3 unit(s) (D1)
- SOCI 1 - Introduction to Sociology 3 unit(s) (D1)

## Major Requirements (72 units)

### Lower Division Courses (16 units)

- MATH 30 - Calculus I 3 unit(s) (B4) (*MATH 30P or MATH 30PL may be used instead of MATH 30.*)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- MATH 39 - Linear Algebra I 3 unit(s)
- MATH 42 - Discrete Mathematics 3 unit(s)

### Upper Division Core (24 units)

- EDSE 102 - Speech, Language & Typical, Atypical Dev 3 unit(s) (S)
- EDSE 124 - Methodologies for Eng Learners w/out Dis 3 unit(s) (V)
- MATH 102 - Secondary School Mathematics 3 unit(s)
- MATH 108 - Introduction to Abstract Mathematics and Proofs 3 unit(s)
- MATH 115 - Modern Geometry and Transformations 3 unit(s)
- MATH 128A - Abstract Algebra I 3 unit(s)

## Additional Requirements (32 units)

- EDEL 294 - Research and Practices in Health and Special Education 3 unit(s)
- EDSE 215 - Assessment And Evaluation of Individuals with Mild/Moderate Disabilities 3 unit(s)
- EDSE 218B - ASD: Mild to Moderate Disabilities 3 unit(s)
- EDSE 279 - Managing Behavior and Emotional Problems of Students in Special Education 3 unit(s)
- MATH 161A - Applied Probability and Statistics I 3 unit(s)
- MATH 161B - Applied Probability and Statistics II 3 unit(s)
- MTED 184Y - Student Teaching II - Classroom Teaching 4-6 unit(s) (4 units required)
- MTED 184Z - Student Teaching III - Classroom Teaching 4-6 unit(s) (4 units required)

## Complete One Course From:

- MATH 126 - Theory of Numbers 3 unit(s)
- MATH 201B - Mathematics for Secondary Teachers 3 unit(s)

## Complete One Course From:

- MATH 128B - Abstract Algebra II 3 unit(s)
- MATH 129B - Linear Algebra II 3 unit(s)
- MATH 131B - Introduction to Real Variables 3 unit(s)

## Total Units Required (120-122 units)

# Master

## Mathematics, MA

This degree, offered by SJSU's Department of Mathematics and Statistics is recommended for future community college teachers and for students who plan to continue toward the PhD in mathematics.

## Requirements for Admission

Candidates must meet all the university Graduate Admissions. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as part of the master's degree program requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division, have completed 18 semester units of upper-division undergraduate mathematics with a GPA of at least 3.0, and have one to three letters of recommendation submitted on his or her behalf. The coursework must be acceptable toward a bachelor's degree in mathematics and may not be counted toward the MA degree.

## Conditionally Classified Standing

A student who meets the minimum requirements for admission to the Graduate Division but does not satisfy the mathematics coursework requirements stated above may be admitted as a conditionally classified student. Eligibility is determined on a case-by-case basis. The individual admission letter will explain the required terms and conditions for attaining classified standing. After arrival at SJSU, a conditionally accepted student must complete additional coursework to make up the unit deficiency in order to achieve classified status. These make-up units will not be included in the MA degree unit requirement total.

## Requirements for Advancement to Graduate Candidacy

To advance to candidacy in the MA in Mathematics degree, a student must meet the university candidacy requirements, as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

The student must complete the Petition for Advancement to Graduate Candidacy form. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the student's thesis or writing project director (if applicable) and the Graduate Coordinator, it is forwarded to GAPE for final approval. Any subsequent changes to the student's program require approval from GAPE.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### Program Graduation Requirements

## Culminating Experience

Students must choose one of three options: The Plan A (Thesis), Plan B (Project), or Plan B (Comprehensive Examination).

### Plan A (Thesis)

A student who selects the Thesis option must find a willing tenured or tenure-track faculty member to serve as the thesis advisor, and complete a thesis under that advisor's supervision. The thesis must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the thesis, which is followed by an oral examination (defense) conducted by the committee. Theses must be filed with the College of Graduate Studies, subject to the rules and deadlines established by that office.

Thesis students must enroll in MATH 299 - Master's Thesis (3 units). Students receive credit when the thesis is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their theses during the semester in which they are enrolled in MATH 299 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R in compliance with university regulations until the thesis is completed, defended, and approved by Graduate Studies.

### Plan B (Project)

A student who selects the Project option must find a willing tenured or tenure-track faculty member to serve as the project advisor, and complete a written project under that advisor's supervision. The project must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the project, which is followed by an oral examination (defense) conducted by the committee.

Students choosing the Plan B (Project) option must enroll in MATH 298 - Special Study (3 units). Students receive credit when the writing project is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their projects during the semester in which they are enrolled in MATH 298 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently sign up for MATH 1290R in compliance with university regulations until the writing project is completed and defended.

### Plan B (Comprehensive Examination)

Students who select this option must pass two written comprehensive examinations. One examination will be in Higher Algebra (MATH 221A and MATH 221B). The second exam will be in Analysis (MATH 231A and MATH 231B).

Students choosing the Plan B (Comprehensive Exam) option must enroll in an additional elective (3 units) selected in consultation with the program graduate advisor. Students complete the program Culminating Experience when they pass both exams. Students who successfully complete all other program requirements but not one or both exams must subsequently enroll in MATH 1290R for the following semester or semesters in compliance with the university requirement for continuous enrollment until both exams have been passed in one sitting.

## Master's Requirements (33 units)

### Core Courses (21 units)

- CS 200W - Graduate Technical Writing 3 *unit(s)* (GWAR)
- MATH 221A - Higher Algebra I 3 *unit(s)*
- MATH 221B - Higher Algebra II 3 *unit(s)*

- MATH 231A - Real Analysis 3 *unit(s)*
- MATH 231B - Functional Analysis 3 *unit(s)*

### Complete Two Courses From:

- MATH 229 - Advanced Matrix Theory 3 *unit(s)*
- MATH 238 - Advanced Complex Variables 3 *unit(s)*
- MATH 275A - Topology 3 *unit(s)*
- MATH 279A - Graph Theory 3 *unit(s)*

### Electives (6 units)

Complete two courses from:

- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 *unit(s)*
- MATH 211A - Geometry of Projective Spaces 3 *unit(s)*
- MATH 213A - Introduction to Smooth Manifolds 3 *unit(s)*
- MATH 213B - Introduction to Riemannian Geometry 3 *unit(s)*
- MATH 226 - Theory of Numbers 3 *unit(s)*
- MATH 229 - Advanced Matrix Theory 3 *unit(s)*
- MATH 233A - Applied Mathematics I 3 *unit(s)*
- MATH 234 - Advanced Dynamical Systems 3 *unit(s)*
- MATH 235 - Wavelets and their Applications 3 *unit(s)*
- MATH 238 - Advanced Complex Variables 3 *unit(s)*
- MATH 243A - Advanced Numerical Analysis 3 *unit(s)*
- MATH 243B - Advanced Topics in Numerical Analysis 3 *unit(s)*
- MATH 243M - Numerical Linear Algebra 3 *unit(s)*
- MATH 261A - Regression Theory and Methods 3 *unit(s)*
- MATH 263 - Stochastic Processes 3 *unit(s)*
- MATH 275A - Topology 3 *unit(s)*
- MATH 275B - Advanced Topics in Topology 3 *unit(s)*
- MATH 279A - Graph Theory 3 *unit(s)*
- MATH 279B - Advanced Graph Theory 3 *unit(s)*
- MATH 285M - Advanced Topics in Pure Mathematics 3 *unit(s)*
- MATH 297A - Preparation for Writing Project, Research Project or Thesis 3 *unit(s)*

### Additional Electives (3 units)

Complete an additional 100-level or 200-level courses selected in consultation with MA Mathematics advisor. Elective courses may include a maximum of 3 units of MATH 280 and/or MATH 297A.

Courses excluded: MATH 100W, MATH 101, MATH 102, MATH 105, MATH 106, MATH 107A, MATH 107B, MATH 201A, MATH 201B, MATH 287.

### Culminating Experience (3 units)

**Complete One Option (Plan A Thesis, Plan B Writing Project, or Plan B Comprehensive Exam):**



### Plan A (Thesis) (3 units)

- MATH 299 - Master's Thesis 1-4 unit(s) (3 units required)
- Oral Presentation
- Oral Defense

### Plan B (Writing Project) (3 units)

- MATH 298 - Special Study 1-4 unit(s) (3 units required)
- Oral Presentation
- Oral Defense

### Plan B (Comprehensive Exam) (3 units)

- MATH 295E - Mathematics Comprehensive Exam Preparation 3 unit(s)
- Comprehensive Exam

### Total Units Required (33 units)

Elective courses must be planned in consultation with the MA Mathematics Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Mathematics, MS

This degree, offered by SJSU's Department of Mathematics and Statistics is appropriate for students who seek to deepen their knowledge of mathematics and its applications for work in the research and development area of industry.

## Requirements for Admission

Candidates must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing. If an applicant's preparation for advanced graduate work is considered inadequate to meet the course prerequisites or other departmental requirements, the conditions will include taking preparatory courses to meet these requirements. Such courses will not count as units that fulfill the master's degree program requirements.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

## Classified Standing

To enter this program with classified standing, a student must meet the minimum requirements for admission to the Graduate Division, have completed 18 semester units of upper-division mathematics with a GPA of at least 3.0, and have one to three letters of recommendation submitted on his or her behalf. The coursework must be acceptable toward a bachelor's degree in mathematics and may not be counted toward the MS degree.

## **Conditionally Classified Standing**

A student who meets the minimum requirements for admission to the Graduate Division but does not satisfy the mathematics coursework requirements stated above may be admitted as a conditionally classified student. Eligibility is determined on a case-by-case basis. The individual admission letter will explain the required terms and conditions for attaining classified standing. After arrival at SJSU, a conditionally accepted student must complete additional coursework to make up the unit deficiency in order to achieve classified status. These make-up units will not be included in the MA degree unit requirement total.

## **Requirements for Advancement to Graduate Candidacy**

To advance to candidacy for the MS degree, a student must meet the university candidacy requirements, as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, please refer to the Graduate Admissions and Program Evaluations (GAPE) website at [www.sjsu.edu/gape](http://www.sjsu.edu/gape).

The student must complete the Petition for Advancement to Graduate Candidacy form. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the student's thesis or writing project director (if applicable) and the Graduate Coordinator, it is forwarded to GAPE for final approval. Any subsequent changes to the student's program require approval from GAPE.

## **Requirements for Graduation**

### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### **Program Graduation Requirements**

### **Graduation Writing Assessment Requirement**

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### **Culminating Experience**

Students must choose one of three options: The Plan A (Thesis), Plan B (Project), or Plan B (Comprehensive Examination).

### **Plan A (Thesis)**

A student who selects the Thesis option must find a willing tenured or tenure-track faculty member to serve as the thesis advisor, and complete a thesis under that advisor's supervision. The thesis must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the thesis, which is followed by an oral examination (defense) conducted by the committee. Theses must be filed with the Associate Dean of Graduate Studies, subject to the rules and deadlines established by the College of Graduate Studies.

Thesis students must enroll in MATH 299 - Master's Thesis (3 units). Students receive credit when the thesis is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their theses during the semester in which they are enrolled in MATH 299 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R in compliance with university regulations until the thesis is completed, defended, and approved by College of Graduate Studies.

### **Plan B (Project)**

A student who selects the Project option must find a willing tenured or tenure-track faculty member to serve as the project advisor, and complete a written project under that advisor's supervision. The project must be reviewed and approved by a committee composed of the advisor and two other faculty members chosen by the student in consultation with the advisor. The student must give a public presentation on the project, which is followed by an oral examination (defense) conducted by the committee.

Students choosing the Plan B (Project) option must enroll in MATH 298 - Special Study (3 units). Students receive credit when the writing project is completed, successfully defended, and all committee members have signed off on it. Students who do not complete their projects during the semester in which they are enrolled in MATH 298 will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently sign up for MATH 1290R in compliance with university regulations until the writing project is completed and defended.

### **Plan B (Comprehensive Examination)**

Students who select this option must pass two written comprehensive examinations. One examination will be in Numerical Analysis (MATH 243A and MATH 243M). The second exam will be in Differential Equations/Dynamical Systems (MATH 233A and MATH 234).

Students must enroll in MATH 295E (3 units) for the semester they are taking their comprehensive exams. Students receive credit when both exams are passed. Students who do not pass one or both exams during the semester they are enrolled in MATH 298E will receive a grade of "RP" for that course. If all other degree requirements have been completed, students must subsequently enroll in MATH 1290R for the following semester or semesters in compliance with the university requirement for continuous enrollment until both exams have been passed.

## **Master's Requirements (33 units)**

### **Core Courses (21 units)**

- CS 200W - Graduate Technical Writing 3 *unit(s)* (GWAR)
- MATH 233A - Applied Mathematics I 3 *unit(s)*
- MATH 234 - Advanced Dynamical Systems 3 *unit(s)*
- MATH 243A - Advanced Numerical Analysis 3 *unit(s)*

- MATH 243M - Numerical Linear Algebra 3 *unit(s)*

## Applied Mathematics

Select one of the following courses in consultation with the graduate advisor:

- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 *unit(s)*
- MATH 285 - Advanced Topics in Mathematics 3 *unit(s)*
- MATH 288J - Applied Mathematics Internship 3 *unit(s)*

## Statistics

Select one of the following courses in consultation with the graduate advisor:

- MATH 163 - Probability Theory 3 *unit(s)*
- MATH 261A - Regression Theory and Methods 3 *unit(s)*
- MATH 263 - Stochastic Processes 3 *unit(s)* (or another 200-level statistics course with consent of MS Mathematics advisor)

## Electives (6 units)

Complete two courses from:

- MATH 213A - Introduction to Smooth Manifolds 3 *unit(s)*
- MATH 213B - Introduction to Riemannian Geometry 3 *unit(s)*
- MATH 229 - Advanced Matrix Theory 3 *unit(s)*
- MATH 235 - Wavelets and their Applications 3 *unit(s)*
- MATH 238 - Advanced Complex Variables 3 *unit(s)*
- MATH 243B - Advanced Topics in Numerical Analysis 3 *unit(s)*
- MATH 261A - Regression Theory and Methods 3 *unit(s)*
- MATH 263 - Stochastic Processes 3 *unit(s)*
- MATH 279A - Graph Theory 3 *unit(s)*
- MATH 279B - Advanced Graph Theory 3 *unit(s)*
- MATH 285A - Advanced Topics in Applied Mathematics 3 *unit(s)*
- MATH 297A - Preparation for Writing Project, Research Project or Thesis 3 *unit(s)*

## Additional Electives (3 units)

Complete one 100-level or 200-level course selected in consultation with MS Mathematics Advisor. Elective courses may include a maximum of 3 units of MATH 280 and/or MATH 297A. Courses excluded are: MATH 100W, MATH 101, MATH 102, MATH 105, MATH 106, MATH 107A, MATH 107B, MATH 188I, MATH 201A, MATH 201B, and MATH 287.

## Culminating Experience (3 units)

### Plan A (Thesis)

- MATH 299 - Master's Thesis 1-4 *unit(s)* (3 units required)

- Oral Presentation
- Oral Defense

### Plan B (Project)

- MATH 298 - Special Study 1-4 unit(s) (3 units required)
- Oral Presentation
- Oral Defense

### Plan B (Comprehensive Exam)

- Additional 3-unit elective selected in consultation with graduate advisor
- Comprehensive Exam

## Total Units Required (33 units)

Elective courses must be planned in consultation with the MS Mathematics Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 6.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Statistics, MS

- Admissions Requirements
- Requirements for Admission to Candidacy
- Requirements for Graduation
- Master's Requirements (36 units)
- Program Learning Outcomes

The Master of Science in Statistics prepares students to become practicing statisticians in business, government and industry fields. It features theoretical and applied coursework in statistics and advanced statistical techniques, and its skills-based coursework emphasizes writing and communication skills and provides students with practical project experience. The program was developed in concert with industry and is designed to dovetail into professional career opportunities.

Persons with bachelor's degrees in engineering, the sciences, economics, business, the social sciences or other fields that use statistics are encouraged to apply. Those with bachelor's degrees in mathematics or statistics are welcome to apply for the program in order to advance their technical and theoretical skills.

Information about the MS, Statistics is available on the Department of Mathematics and Statistics website at [www.sjsu.edu/math](http://www.sjsu.edu/math).

## Admissions Requirements

### University Admissions

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

To enter this program with classified standing, an applicant must meet the minimum requirements for admission to the Graduate Division. Applicants must also have completed the following SJSU courses or their equivalents each with a grade of "B" or better (this coursework is not counted toward the MS degree):

1. A calculus series through multiple integration and partial differentiation (equivalent to the SJSU courses MATH 30, MATH 31 and MATH 32);
2. Linear algebra equivalent to MATH 39; and
3. Introductory calculus-based probability and statistics equivalent to MATH 161A.

In addition, applicants must also submit scores from the general GRE test. Applicants must have two letters of recommendation submitted on their behalf.

## Requirements for Admission to Conditionally Classified Standing

An applicant who meets the minimum requirements for admission to the Graduate Division but does not yet satisfy the mathematics and statistics coursework program requirements stated above may be admitted as Conditionally Classified. The student must complete additional coursework to make up the deficiency before beginning the program. The units earned from this additional coursework may not be counted towards the total number of units required for the MS degree. The individual admission letter will explain the required terms and conditions for attaining Classified standing.

## Requirements for Admission to Candidacy

To be admitted to candidacy for the MS Statistics degree:

1. A student must meet the candidacy requirements as stated in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. The GWAR requirement is fulfilled by passing CS 200W.
2. Complete MATH 163 and MATH 164, each with a grade of at least B.
3. Complete at least 18 units towards the degree with at least a 3.0 average.
4. Complete the Request for Candidacy and Graduate Degree Program form for the Master of Science degree. This form lists, among other things, all the coursework to be counted toward the master's degree. After the form has been signed by the Graduate Coordinator, it is forwarded to the Associate Dean for College of Graduate Studies for final approval. Any subsequent changes to the student's program require approval from College of Graduate Studies.

## Requirements for Graduation

# University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## MS- Statistics Graduation Requirements

Students in the MS Statistics program complete all courses in the program core, project experience or written exam, and culminating experience. Those choosing the Specialization in Machine Learning complete the electives MATH 251, MATH 252, MATH 250 and MATH 267. All other students complete MATH 261B and 9 units of electives selected in consultation with, and approved by, the Statistics Coordinator. The electives should form a coherent set of courses associated with the student's career goals. They may include a maximum of 3 units of MATH 180 and a maximum of three units of MATH 203 or MATH 298. The maximum number of 100-level undergraduate units that can be applied toward the master's degree is 15.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan B (Project)

Students in the MS, Statistics enroll in MATH 269 in their final semester. They complete the program culminating experience requirement by successfully completing the course and an oral examination related to their consulting project.

### Master's Requirements (36 units)

#### Core Courses (18 units)

- CS 200W - Graduate Technical Writing 3 *unit(s)* (GWAR)
- MATH 163 - Probability Theory 3 *unit(s)*
- MATH 164 - Mathematical Statistics 3 *unit(s)*
- MATH 167R - Statistical Programming with R 3 *unit(s)*
- MATH 167PS - Introduction to Python Programming and SQL 3 *unit(s)*
- MATH 261A - Regression Theory and Methods 3 *unit(s)*

#### Project Experience (3 units)

Complete one course from:

- MATH 203 - Applied Mathematics, Computation, and Statistics Projects 3 *unit(s)*
- MATH 288I - Internships 3 *unit(s)*
- MATH 298 - Special Study 1-4 *unit(s)* (3 *units* required)

## Comprehensive Written Exam

Comprehensive written exam on material from

- MATH 163 - Probability Theory *3 unit(s)*
- MATH 164 - Mathematical Statistics *3 unit(s)*
- MATH 261A - Regression Theory and Methods *3 unit(s)*
- One additional elective approved by the graduate advisor

## Electives or Specialization (12 units)

### **Complete 12 Units of Electives or the Specialization in Machine Learning**

#### Electives

- Students not pursuing a specialization take MATH 261B and 9 units of electives selected in consultation with the graduate advisor *9 unit(s)*
- MATH 261B - Design and Analysis of Experiments *3 unit(s)*

#### Specialization in Machine Learning

- MATH 251 - Statistical and Machine Learning Classification *3 unit(s)*
- MATH 252 - Cluster Analysis *3 unit(s)*
- MATH 250 - Mathematical Methods for Data Visualization *3 unit(s)*
- MATH 267 - Computational Statistics *3 unit(s)*

#### Culminating Experience (3 units)

- MATH 269 - Statistical Consulting *3 unit(s)*

## Total Units Required (36 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### **Mathematics Education Minor**

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

#### **University Graduation Requirements**



To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (12 units)

- MATH 102 - Secondary School Mathematics 3 *unit(s)*
- EDSC 173 - Psychological Foundations of Secondary Teacher Education 3 *unit(s)*
- EDTE 190 - Health Education for the Classroom Teacher 3 *unit(s)*
- EDSE 192A - Including and Supporting Students 3 *unit(s)*

## Total Units Required (12 units)

Units for the above courses, while leading to the Minor in Mathematics Education, are not transferred to credential programs. These courses do, however, satisfy requirements that must be met in order for the credential programs at SJSU to recommend the credential to the State of California.

## Mathematics Minor

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (19 units)

### Lower Division (10 units)

- MATH 30 - Calculus I 3 *unit(s)* (B4) (MATH 30X may be used instead of MATH 30.)
- MATH 31 - Calculus II 4 *unit(s)* (B4)

### Complete One Course From:

- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 42 - Discrete Mathematics 3 *unit(s)*

### Upper Division Mathematics Electives (9 units)

## Total Units Required (19 units)

## Mathematics, For K-8 Teachers Minor

A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

*MATH 19 Precalculus or a Calculus course may be substituted for one of the required courses in this minor. A grade of "C-" or better is required for courses being used to satisfy the requirements for this minor.*

- MATH 12 - Number Systems 3 unit(s) (B4)
- MATH 101 - Problem Solving for Teachers 3 unit(s)
- MATH 105 - Concepts in Mathematics, Probability, Statistics 3 unit(s)
- MATH 106 - Intuitive Geometry 3 unit(s)
- MATH 107A - Explorations in Algebra 3 unit(s)
- MATH 107B - Explorations in Geometry 3 unit(s)

## Total Units Required (18 units)

*MATH 1 - Mathematical Reasoning*

3 unit(s)

Focus on foundational mathematical skills and knowledge in the context of contemporary society.

*Satisfies B4: Mathematical Concepts*

**Corequisite(s):** MATH 1001S required for Math Enrollment Categories M-III and M-IV.

**Grading:** Graded

*MATH 10 - Mathematics for General Education*

3 unit(s)

Topics include methods of proof, problem solving, trigonometry, probability, statistics, applications to scheduling and apportionment, population studies, consumer math, theory of games, polyhedra, networks, graph theory, linear programming.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I or M-II, or MATH 1 with a grade of C- or better.

**Grading:** Graded

*MATH 10A - Mathematics in Art and Music*

3 unit(s)

An accessible look into some beautiful ideas of mathematics in art and music. Topics include plane symmetries, tilings, perspective drawing, musical intervals, scales and temperament, timbre and periodic functions. GE Area: B4.

*Satisfies B4: Mathematical Concepts*

**Corequisite(s):** MATH 1010AS required for Math Enrollment Categories M-III and M-IV.

**Grading:** Graded

*MATH 10D - Probability, Data Science, Ethics, and You*

3 unit(s)

An accessible introduction to the basic principles of probability and data science with a focus on ethical considerations.

*Satisfies B4: Mathematical Concepts*

**Corequisite(s):** MATH 1010DS required for Math Enrollment Categories M-III and M-IV.

**Grading:** Graded

*MATH 10P - Mathematics in Politics*

3 unit(s)

An accessible look into some beautiful ideas of mathematics in politics. Topics include voting systems, apportionment and gerrymandering.

*Satisfies B4: Mathematical Concepts*

**Corequisite(s):** MATH 1010PS required for Math Enrollment Categories M-III and M-IV.

**Grading:** Graded

*MATH 12 - Number Systems*

3 unit(s)

Structure of the real number system, numeration systems, elementary number theory, and problem-solving techniques; technology integrated throughout the course. This course is intended for future elementary teachers. The sequence of Math 12, MATH 105, and MATH 106 satisfies subject matter competence in K-8 mathematics.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Two years of high school algebra; one year of high school geometry; Math Enrollment Category M-I or M-II, or MATH 1 with a grade of C- or better.

**Grading:** Graded

*MATH 15F - Statway Part A: Statistics-Concepts & Methods*

3 unit(s)

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Must complete UNVS 15F/UNVS 15S sequence to satisfy GE Area B4.

*Misc/Lab: Lecture 1 hour / Activity 4 hours*

**Grading:** Graded

*MATH 15S - Statway Part B: Statistics-Concepts & Methods*

3 unit(s)

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Completion with a grade of C- or better satisfies the GE Area B4 Mathematical Concepts requirement.

*Lecture 1 hour / Activity 4 hours*

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** UNVS 15F with a grade of C- or better or concurrent enrollment in UNVS 1015W.

**Grading:** Graded

*MATH 18A - College Algebra*

*3 unit(s)*

Review of basic algebra. Complex numbers, functions, graphs, polynomials, inverse functions, exponential and logarithmic functions.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III; or MATH 1 with a grade of C- or better. MATH 1018AS required as a corequisite for Enrollment Categories M-III and M-IV, and recommended for Enrollment Category M-II.

**Corequisite(s):** MATH 18AW recommended.

**Grading:** Graded

*MATH 18AW - College Algebra Workshop*

*1 unit(s)*

Students work in groups on college algebra material to help them understand college algebra concepts more thoroughly since it is the groundwork for success in future math courses.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** MATH 18A

**Grading:** Credit/No Credit

*MATH 18B - Trigonometry*

*3 unit(s)*

Trigonometric functions: Unit circle, right triangle, analytic; trigonometric identities. Analytic geometry (conic sections). Other topics chosen from: polar coordinates and complex numbers; vectors in two and three dimensions.

**Prerequisite(s):** MATH 18A with a grade of "C-" or better.

**Grading:** Graded

**Note(s):** With MATH 18A, preparation for MATH 30/MATH 30X.

*MATH 18WB - Trigonometry Workshop*

*1 unit(s)*

Students work in groups on trigonometry material presented in MATH 18B, to help them understand trigonometry concepts more thoroughly.

*Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** MATH 18B.

**Grading:** Credit / No Credit

*MATH 19 - Precalculus*

*5 unit(s)*

Preparation for calculus: polynomial, rational, exponential, logarithmic and trigonometric functions; analytic geometry.

*Lecture 4 hour/lab 3 hours.*

*Satisfies B4: Mathematical Concepts.*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III; or MATH 1 with a grade of C- or better.

**Corequisite(s):** MATH 1019S required as a corequisite for Enrollment Category M-III, and recommended for Enrollment Category M-II.

**Grading:** ABC-/NC Grading

*MATH 30 - Calculus I*

*3 unit(s)*

Introduction to calculus including limits, continuity, differentiation, applications and introduction to integration. Graphical, algebraic and numerical methods of solving problems.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I or M-II and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of B or better to waive the exam; or MATH 18A and MATH 18B, with a grade of B or better in each to waive the exam.

**Grading:** Graded

**Note(s):** Students repeating MATH 30 are not eligible for this class and must take MATH 30X, but grade forgiveness can apply. MATH 30X is replacing MATH 30P and MATH 30PL.

*MATH 30W - Calculus I Workshop*

*2 unit(s)*

Designed to help all students excel in Calculus I. Students work in groups on challenging calculus problems to help them understand the concepts in Calculus I more deeply and lay the groundwork for success in future math courses.

*Lab 6 hours.*

*Course is repeatable for up to 3 units.*

**Corequisite(s):** MATH 30X.

**Grading:** Credit / No Credit

**Note(s):** The workshop is 2 units. Activities in this workshop include embedded Precalculus review as well Calculus I material.

*MATH 30X - Calculus I*

3 unit(s)

Introduction to calculus including limits, continuity, differentiation, applications, and introduction to integration. Graphical, algebraic and numerical methods of solving problems.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of C- or better to waive the exam; or MATH 18A and MATH 18B with a grade of C- or better in each to waive the exam.

**Corequisite(s):** MATH 30W.

**Grading:** Graded

**Note(s):** MATH 30X is treated as a repeat for students who have taken MATH 30. MATH 30X is replacing MATH 30P and MATH 30PL.

*MATH 31 - Calculus II*

4 unit(s)

Definite and indefinite integration with applications. Sequences and series. Graphical, algebraic and numerical methods of solving problems.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** AP Calculus AB score 4 to 5, AP Calculus BC/AB Subscore 4-5, or MATH 30 or MATH 30X (with a grade of B or better).

**Grading:** Graded

**Note(s):** Passing this course with a grade of "C-" or better course fulfills GE Area B4. Students who are repeating MATH 31 or MATH 31X are not eligible for this class and must take MATH 31X.

*MATH 31W - Calculus II Workshop*

1 unit(s)

Support for students to excel in Calculus II. Students work in groups on challenging calculus problems to help them understand the concepts in Calculus II more deeply and lay the groundwork for success in future math courses.

*Lab 3 hours.*

*Course is repeatable for up to 3 units.*

**Corequisite(s):** MATH 31X.

**Grading:** Credit / No Credit

*MATH 31X - Calculus II*

4 unit(s)

Definite and indefinite integration with applications. Sequences and series. Graphical, algebraic and numerical methods of solving problems.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** AP Calculus AB score 3 to 5, AP Calculus BC/AB Subscore 3-5, or MATH 30 or MATH 30X (with a grade of C- or better).

**Corequisite(s):** MATH 31W.

**Grading:** Graded

**Note(s):** Passing this course with a grade of "C-" or better course fulfills GE Area B4. Students who are repeating MATH 31 or Math 31X are not eligible for this class and must take Math 31X.

*MATH 32 - Calculus III*

*3 unit(s)*

Functions of more than one variable, partial derivatives, multiple integrals and vector calculus. Graphical, algebraic and numerical methods of solving problems. GE Area B4.

*Satisfies B4: Mathematical Concepts.*

**Prerequisite(s):** Score of 4 to 5 on the AP Calculus BC Exam; or MATH 31 or MATH 31X with a grade of B or better.

**Grading:** Graded

**Note(s):** Students who are repeating MATH 32 must take MATH 32X.

*MATH 32H - Honors Multivariable Calculus*

*4 unit(s)*

Functions of more than one variable, partial derivatives, and multiple integrals. Vector fields, line and surface integrals, Green's Theorem, Stokes' Theorem, Divergence Theorem. Applications to engineering and science.

*Misc/Lab: Lecture 3 hours/Lab 3 hours*

**Prerequisite(s):** A score of 4 or 5 on the AP Calculus BC exam or Instructor Consent.

**Grading:** Graded

*MATH 32W - Calculus III Workshop*

*1 unit(s)*

Designed to promote students to excel in Calculus III. Students work in groups on Calculus III material to help them understand Calculus III concepts more thoroughly.

*Lab 3 hours.*

*Course is repeatable for up to 3 units.*

**Corequisite(s):** MATH 32X.

**Grading:** Credit / No Credit

*MATH 32X - Calculus III*

*3 unit(s)*

Functions of more than one variable, partial derivatives, multiple integrals and vector calculus. Graphical, algebraic and numerical methods of solving problems.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** Score of 3 to 5 on the AP Calculus BC Exam; or MATH 31 or MATH 31X with a grade of C- or better.

**Corequisite(s):** MATH 32W.

**Grading:** Graded

*MATH 33A - Ordinary Differential Equations for SCI & ENGR*

3 unit(s)

(Formerly MATH 133A) First order differential equations, first order linear systems, second order linear equations, applications, Laplace transforms, series solutions.

**Prerequisite(s):** MATH 32 or MATH 32H or MATH 32X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 33LA - Differential Equations and Linear Algebra*

3 unit(s)

(Formerly MATH 123) Matrices, determinants, systems of linear equations, vector geometry, linear transformations, eigenvalues and eigenvectors, diagonalization, first order differential equations, linear systems of differential equations, higher order differential equations, Laplace transforms.

**Prerequisite(s):** MATH 31 or MATH 31X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 34 - Ordinary Differential Equations*

3 unit(s)

First order differential equations, first order linear systems, second order linear equations, applications, numerical and series solutions. Nonlinear stability of solutions will be introduced. Existence and uniqueness of solutions will be emphasized.

**Prerequisite(s):** MATH 32 or MATH 32X (with a grade of C- or better) or instructor consent.

**Pre/Corequisite(s):** MATH 39 or instructor consent.

**Grading:** Graded

*MATH 39 - Linear Algebra I*

3 unit(s)

(Formerly MATH 129A) Matrices, systems of linear equations, vector geometry, matrix transformations, determinants, eigenvectors and eigenvalues, orthogonality, diagonalization, applications, computer exercises. Theory in  $\mathbb{R}^n$  emphasized; general real vector spaces and linear transformations introduced.

**Prerequisite(s):** MATH 31 or MATH 31X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 42 - Discrete Mathematics*

3 unit(s)

Sets, logic, methods of proof including mathematical induction, functions, relations, elementary combinatorics, probability, Boolean algebras.

**Prerequisite(s):** Math Enrollment Category M-I or M-II and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of "B" or better to waive the exam; or MATH 18A and MATH 18B, with a grade of "B" or better in each to waive the exam.



**Grading:** Graded

**Note(s):** Students who are repeating MATH 42 and MATH 42X are not eligible for this class and must take MATH 42X.

*MATH 42W - Discrete Math Workshop*

*1 unit(s)*

Designed to promote students to excel in Discrete Mathematics. Students work in groups on challenging discrete math problems to help them understand the concepts in discrete math more deeply and lay the groundwork for success in future courses.

*Lab 3 hours.*

*Course is repeatable for up to 3 units.*

**Corequisite(s):** MATH 42X.

**Grading:** Credit / No Credit

*MATH 42X - Discrete Mathematics*

*3 unit(s)*

Sets, logic, methods of proof including mathematical induction, functions, relations, elementary combinatorics, probability, Boolean algebras.

**Prerequisite(s):** Math Enrollment Category M-I, M-II, or M-III and satisfactory score on the Precalculus Proficiency Assessment; MATH 19 with a grade of C- or better to waive the exam; or MATH 18A and MATH 18B with a grade of C- or better in each to waive the exam.

**Corequisite(s):** MATH 42W.

**Grading:** Graded

*MATH 50 - Scientific Computing I*

*2 unit(s)*

Computer systems and structured programming, emphasizing solutions of problems in the atmospheric sciences using Python programming. Includes the UNIX operating system, mass data handling and data visualization.

*Lecture 1 hour/Lab 3 hours.*

**Prerequisite(s):** MATH 30 or MATH 30X.

**Corequisite(s):** For METR majors: MATH 31 or MATH 31X, METR 60, PHYS 50. For Climate Science majors: METR 60 and CHEM 1A.

**Grading:** Graded

*MATH 70 - Finite Mathematics*

*3 unit(s)*

Systems of linear equations and inequalities, matrices, linear programming, set theory and probability theory, applications to business and to social sciences.

*Satisfies B4: Mathematical Concepts.*

**Prerequisite(s):** Math Enrollment Category M-I or M-II or C- or better in any GE Area B4 course or satisfactory score

in the Precalculus Proficiency Assessment.

**Grading:** Graded

*MATH 71 - Calculus for Business and Aviation*

*3 unit(s)*

Functions and graphs, limits, continuity, differentiation, integration, partial differentiation. Emphasis on business and economics applications.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** MATH 18A or MATH 19 with a grade of B or better; satisfactory score on the Precalculus Proficiency Assessment; or SAT Math score of 550+ (old version) or 570+ (revised score); or ACT Math score of 23+ waives the prerequisite.

**Grading:** Graded

**Note(s):** Students repeating MATH 71 are not eligible for this class and must take MATH 71X.

*MATH 71W - Calculus Workshop for Business/Aviation*

*1 unit(s)*

Designed to help all students excel in Calculus for Business/Aviation. Students work in groups on challenging calculus problems to help them understand the concepts in calculus more deeply and lay the groundwork for success in future courses.

*Lab 3 hours.*

*Course is repeatable for up to 3 units.*

**Corequisite(s):** MATH 71X.

**Grading:** Credit / No Credit

*MATH 71X - Calculus for Business and Aviation*

*3 unit(s)*

Functions and graphs, limits, continuity, differentiation, integration, partial differentiation. Emphasis on business and economics applications.

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** MATH 18A or MATH 19 with a grade of C- or better to waive the exam; or satisfactory score on the Precalculus Proficiency Assessment; or SAT Math score of 550+ (old version) or 570+ (revised score); or ACT Math score of 23+ to waive the exam.

**Corequisite(s):** MATH 71W.

**Grading:** Graded

*MATH 92 - Int'l Program Studies*

*1-6 unit(s)*

**Grading:** Mixed Grading

*MATH 100W - Technical Writing Workshop*

3 unit(s)

Advanced writing through preparation of technical reports and presentations. Improving skills for writing subject-related reports, project proposals and personal resumes through practice and evaluation. Course assignments will be related to issues concerning careers in mathematics and mathematics education. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); Completion of core GE, satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*MATH 101 - Problem Solving for Teachers*

3 unit(s)

Problem solving involving elementary number theory, algebra, geometry, logic, measurement, probability and statistics. Selected problems explored and extended across content strands. Various instructional methods and assessment alternatives modeled. Designed specifically for teachers of mathematics, grades K-8.

**Prerequisite(s):** MATH 106 (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 102 - Secondary School Mathematics*

3 unit(s)

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes inductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

**Prerequisite(s):** Equivalent of mathematics minor (with 9 upper division units) or instructor consent.

**Grading:** Graded

*MATH 104 - History of Mathematics*

3 unit(s)

Mathematical development from earliest times to the twentieth century.

**Prerequisite(s):** MATH 42 or MATH 42X, and MATH 115 (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 105 - Concepts in Mathematics, Probability, Statistics*

3 unit(s)

Introduction to functions and algebraic reasoning, introduction to probability, data, graphs, statistics, problem solving; technology integrated throughout the course. This course is intended for future elementary teachers. The sequence of MATH 12, MATH 105, and MATH 106 satisfies subject matter competence in K-8 mathematics.

**Prerequisite(s):** Two years of high school algebra, one year of high school geometry, MATH 12 with a "C-" or better.

**Grading:** Graded

*MATH 106 - Intuitive Geometry*

3 unit(s)

Introductory geometry, measurement, inductive and deductive reasoning, introduction to transformations, and problem-solving techniques; technology integrated throughout the course. This course is intended for future elementary teachers. The sequence of MATH 12, MATH 105, and MATH 106 satisfies subject matter competence in K-8 mathematics.

**Prerequisite(s):** MATH 12 and MATH 105 with grades of "C-" or better

**Grading:** Graded

*MATH 107A - Explorations in Algebra*

3 unit(s)

Comprehensive view of school algebra primarily for the mathematical preparation of teachers. The computer will be used to generate examples, investigate relationships, explore algorithms and solve problems. Functions and relations used as a unifying theme throughout.

**Prerequisite(s):** MATH 106 (with a grade of "C-" or better), or instructor consent.

**Grading:** Graded

*MATH 107B - Explorations in Geometry*

3 unit(s)

Comprehensive view of elementary geometry primarily for the mathematical preparation of teachers. The computer will be used to investigate two- and three-dimensional patterns, measurement and parallelism. Transformational approach to congruence and similarity. Nature of inductive reasoning and deductive proof.

**Prerequisite(s):** MATH 106 (with a grade of "C-" or better), or instructor consent.

**Grading:** Graded

*MATH 108 - Introduction to Abstract Mathematics and Proofs*

3 unit(s)

The course purpose is to develop students' mathematical maturity and skill with proofs. Material covered includes logic; set theory including functions, relations, and cardinality; the real number system, including the completeness axiom; and selected topics.

**Prerequisite(s):** MATH 31 or MATH 31X, and MATH 42 or MATH 42X (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 112 - Vector Calculus*

3 unit(s)

Vector fields, line and surface integrals, Green's Theorem, Stokes' Theorem, Divergence Theorem and advanced topics such as differential forms or applications to mechanics, fluid mechanics, or electromagnetism.

**Prerequisite(s):** MATH 32 or MATH 32X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 113 - Differential Geometry*

3 unit(s)

Properties of curves and surfaces, Frenet-Serret formulas and the fundamental forms. Study of curves and surfaces in the small by means of differential calculus.

**Prerequisite(s):** MATH 32 or MATH 32X, and MATH 39 (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*MATH 115 - Modern Geometry and Transformations*

3 unit(s)

Synthetic and analytic theory of projective transformations, similarities, Euclidian motions, inversive geometry and an introduction to non-Euclidean geometry.

**Prerequisite(s):** MATH 31 or MATH 31X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 123W - Differential Equations and Linear Algebra Workshop*

1 unit(s)

A course designed to help all students excel in Linear Algebra and Ordinary Differential Equations (ODE's). Students work in groups on challenging problems to help them understand the concepts of Linear Algebra and ODE's more deeply and lay the groundwork for success in future courses.

*Course is repeatable for up to 3 units.*

**Prerequisite(s):** MATH 32 or MATH 32X (with a grade of C- or better).

**Corequisite(s):** MATH 33LA.

**Grading:** Credit / No Credit

*MATH 126 - Theory of Numbers*

3 unit(s)

Divisibility, prime numbers, congruences of first and higher degrees, theorems of Fermat, Euler and Wilson. Quadratic residues.

**Prerequisite(s):** MATH 31 or MATH 31X, and MATH 42 or MATH 42X (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 127 - Applied and Industrial Algebra*

3 unit(s)

Fundamental topics of abstract algebra (groups, rings, fields) from the viewpoint of real-world application, such as coding theory, robotics, algorithm design, cryptography, integrated circuit design, and signal processing.

**Prerequisite(s):** MATH 42 or MATH 42X, and MATH 39 (each with a C- or better). Or instructor consent.

**Grading:** Graded

*MATH 128A - Abstract Algebra I*

3 unit(s)

Group theory: permutation groups, abelian groups, morphism theorems, finite groups. Introduction to rings and fields.

**Prerequisite(s):** MATH 108 and MATH 39 (each with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 128B - Abstract Algebra II*

3 unit(s)

Emphasis on rings, integral domains, fields, field extensions, Galois theory.

**Prerequisite(s):** MATH 128A (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 129B - Linear Algebra II*

3 unit(s)

Continuation of MATH 39. Abstract vector spaces and linear transformations, diagonalization, Cayley-Hamilton theorem, minimal polynomials, Jordan canonical form. Selected topics from inner product and adjoint, duality, rational canonical form and applications.

**Prerequisite(s):** MATH 108 and MATH 39 (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 131A - Introduction to Analysis*

3 unit(s)

Properties of real numbers including completeness and compactness. Continuous functions, uniform continuity, the derivative.

**Prerequisite(s):** MATH 32 or MATH 32X, and MATH 108 (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 131B - Introduction to Real Variables*

3 unit(s)

The theory of the Riemann integral, sequences and series of functions, spaces of functions.

**Prerequisite(s):** MATH 131A (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 132 - Advanced Calculus*

3 unit(s)

Calculus of several variables; Jacobian, inverse and implicit function theorems, contracting mapping theorem, change of variables in integration and applications.

**Prerequisite(s):** MATH 32 or MATH 32X, and MATH 39 (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 133B - Partial Differential Equations*

3 unit(s)

Partial differential equations of physics and engineering, Fourier series, Legendre polynomials, Bessel functions, orthogonal functions, the Sturm-Liouville equation.

**Prerequisite(s):** One of MATH 33A, MATH 33LA, or MATH 34; and one of MATH 112 or MATH 132. All with a grade of C- or better.

**Grading:** Graded

*MATH 133W - Ordinary Differential Equations Workshop*

1 unit(s)

Designed to help all students excel in Ordinary Differential Equations (ODE's). Students work in groups on challenging problems to help them understand the concepts in ODE's more deeply and lay the groundwork for success in future courses.

**Prerequisite(s):** MATH 32 or MATH 32X (with a grade of C- or better).

**Corequisite(s):** MATH 33A.

**Grading:** Credit / No Credit

*MATH 134 - Ord. Diff. Eqns and Dynamical Systems*

3 unit(s)

First order differential equations and phase lines. Linear systems. Phase portraits. Classification of planar linear systems. Existence and uniqueness of solutions. Flows. Stability of equilibria and periodic orbits. Applications in the physical sciences and engineering.

**Prerequisite(s):** MATH 39 and one of MATH 33A or MATH 34, both with a grade of C- or better; or MATH 33LA (with a grade of C- or better).

**Grading:** Graded

*MATH 138 - Complex Variables*

3 unit(s)

Analytic functions, complex integration, residues and power series.

**Prerequisite(s):** MATH 32 or MATH 32X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 142 - Introduction to Combinatorics*

3 unit(s)

Sets, permutations, combinations, probability, mathematical induction, counting techniques, generating functions, partitions, recurrence relations, inclusion-exclusion. Polya's theorem and applications to computer science, mathematics, engineering and physical sciences.

**Prerequisite(s):** MATH 32 or MATH 32X, and MATH 42 or MATH 42X (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 143C - Numerical Analysis and Scientific Computing*

3 unit(s)

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include nonlinear equations, interpolation, approximation theory, differentiation, integration, differential equations, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

**Prerequisite(s):** MATH 32 or MATH 32X, one of CS 22A, MATH 50, CS 46A, CS 49C or CS 49J, one of MATH 33A, MATH 33LA, or MATH 34 (with a grade of "C-" or better in each); or instructor consent.

**Grading:** Graded

*MATH 143M - Numerical Analysis and Scientific Computing*

3 unit(s)

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include systems of linear equations-direct and iterative methods, least squares problems, eigenvalues and eigenvectors, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

**Prerequisite(s):** MATH 39, one of CS 22A, MATH 50, CS 46A or CS 49C (each with a grade of "C-" or better). Or instructor consent.

**Grading:** Graded

*MATH 146 - An Introduction to Mathematical Cryptography*

3 unit(s)

Introduction to mathematics that has been useful in cryptography with a focus on the underlying mathematics (abstract algebra, number theory, probability, and combinatorics), and supporting applications (encryption, hash functions, blockchain). Additional topics may be covered.

**Prerequisite(s):** MATH 42 or MATH 42X, and MATH 39 (each with C- or better), or instructor consent.

**Grading:** Graded

**Note(s):** Recommended (but not required) one of MATH 108, MATH 126, MATH 127, MATH 142, MATH 163.

*MATH 150 - Theory of Interest*

3 unit(s)

Measurement of interest; time value of money; present and future values of cash flows; applications to annuities, loans, sinking funds, bonds, and portfolios; duration and immunization.

**Prerequisite(s):** MATH 161A or ISE 130, or instructor consent

**Grading:** Graded

*MATH 161A - Applied Probability and Statistics I*

3 unit(s)

Descriptive and inferential statistics. Collection and analysis of data, discrete and continuous probability models, random variables, Central Limit Theorem, confidence intervals, hypothesis testing.

**Prerequisite(s):** MATH 31 or MATH 31X (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded



*MATH 161B - Applied Probability and Statistics II*

3 unit(s)

A continuation of MATH 161A. Two sample confidence intervals and hypothesis tests, analysis of variance, simple and multiple regression, chi-square tests of homogeneity and goodness-of-fit, other topics as time permits. Use of statistical software is integral to the course. Student project required.

**Prerequisite(s):** MATH 161A (with a grade of "C-" or better), or instructor consent

**Grading:** Graded

*MATH 162 - Statistics for Bioinformatics*

3 unit(s)

Introduction to the theory and applications of statistical methodology in the biological sciences. Topics include inference, stochastic processes, Markov chains, hidden Markov models, clustering, and gene expression analysis. Applications to current molecular biology and genetics problems. No biology background required.

**Prerequisite(s):** MATH 161A (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 163 - Probability Theory*

3 unit(s)

Probability axioms; random variables; marginal and conditional density and distribution functions; binomial, geometric, Poisson, gamma and normal probability laws; mathematical expectations, moment generating functions; limit theorems; sampling distributions.

**Prerequisite(s):** MATH 32 or MATH 32X, and MATH 161A (each with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 163W - Probability Workshop*

1 unit(s)

Corequisite workshop designed to help all students succeed in MATH 163. Students work in groups on probability problems and review material from MATH161A and MATH 32 or MATH 32X as necessary.

*Course is repeatable for up to 2 units.*

**Grading:** Credit / No Credit

*MATH 164 - Mathematical Statistics*

3 unit(s)

Sampling distributions, confidence intervals, order statistics, sufficient statistics, the Rao-Blackwell Theorem, completeness, uniqueness, point estimation, maximum likelihood, Bayes' methods, testing hypotheses, likelihood ratio tests, categorical data analysis, nonparametric tests.

**Prerequisite(s):** MATH 163 (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 167PS - Introduction to Python Programming and SQL*

3 unit(s)

Introduction to Python. Data types, control flow, object-oriented programming, and graphical user interface-driven applications. The class will include designing relational schemas, writing SQL queries, accessing and designing a database, performing database administration. The students will also learn how to perform intermediate data base operations.

**Prerequisite(s):** MATH 39, MATH 161A, and MATH 167R or instructor consent.

**Grading:** Graded

*MATH 167R - Statistical Programming with R*

3 unit(s)

Introduction to the R programming language. Topics include data structures, reading and writing data, databases, data visualization, accessing and creating packages, programming structures and functions.

**Prerequisite(s):** MATH 161A with a grade of "C-" or better

**Grading:** Graded

*MATH 170 - Mathematical Modeling for the Life Sciences*

3 unit(s)

Mathematical models used in biology and other life sciences, discrete and continuous processes, mathematical methods for analyzing solutions to the above models, interpretation of mathematical results.

**Prerequisite(s):** MATH 39 and one of MATH 33A or MATH 34 (both with a grade of C- or better); or MATH 33LA (with a grade of C- or better).

**Grading:** Graded

*MATH 177 - Linear and Non-Linear Optimization*

3 unit(s)

Linear inequalities, the simplex method and other algorithms, duality, integer optimization, convex optimization, quadratic optimization, game theory.

**Prerequisite(s):** MATH 32 and MATH 39, both with a grade of C- or better.

**Grading:** Graded

*MATH 178 - Mathematical Modeling*

3 unit(s)

Basic modeling techniques including graphing, proportion, curve fitting and interpolation, optimization, probability and computer simulation, derivatives and differences. Technology will be incorporated to model applied problems from business/economics, physical/life/social sciences and engineering.

**Prerequisite(s):** MATH 39 (with a grade of "C-" or better) or instructor consent.

**Grading:** Graded

*MATH 179 - Introduction to Graph Theory*

3 unit(s)

Hamiltonian and Eulerian properties, matching, trees, connectivity, coloring problems and planarity. Emphasis on algorithms and applications, including optimal network flows.

**Prerequisite(s):** MATH 42 or MATH 42X, and MATH 39 (each with a grade of "C-" or better). Or instructor consent.  
**Grading:** Graded

*MATH 180 - Individual Studies*

1-4 unit(s)

Individual study in a specific field. Not available to Open University Students.

**Prerequisite(s):** Department chair consent.

**Grading:** Credit/No Credit

*MATH 180H - Individual Studies for Honors*

3 unit(s)

Senior project on advanced topics in mathematics as determined by the instructor. Written paper and oral presentation of the project required. Intended for students graduating with departmental honors.

**Prerequisite(s):** At least junior standing as mathematics major. GPA of 3.5 or higher in the major and department chair consent.

**Grading:** Credit/No Credit

*MATH 180R - Undergraduate Research in Mathematics*

1-4 unit(s)

Advanced work in specific fields with variable units 1 to 4. Students will work on research topics in mathematics which will vary depending the instructor(s).

**Prerequisite(s):** Mathematics major/minor or consent of instructor

**Grading:** Credit/No Credit

*MATH 185 - Special Topics in Mathematics*

3 unit(s)

Selected topics in Mathematics. Topics vary each semester. Course is repeatable for a maximum total of 12 units of credit.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Suitable upper division background in mathematics set by instructor.

**Grading:** Graded

*MATH 188I - Student Internships*

3 unit(s)

Professional work experience in an area relevant to the students degree objectives. A written report, oral report and evaluation by a supervisor will be used to demonstrate that the goals of the internship experience have been met.

**Prerequisite(s):** Math department project coordinator consent.

**Grading:** Credit/No Credit

*MATH 190 - Introduction to MS Level Statistics*

1 unit(s)

Intensive review of mathematical methods. Selected topics from multivariate calculus, linear algebra, probability theory and elementary statistics. Introduction to statistical software including graphics and programming using R. Course will cover indispensable tools necessary for success in the MS statistics program.

**Prerequisite(s):** Admission to the MS Statistics Program

**Grading:** Credit/No Credit

*MATH 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*MATH 201A - Mathematics for Secondary Teachers*

3 unit(s)

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes inductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

**Prerequisite(s):** Equivalent of mathematics minor or instructor consent.

**Grading:** Graded

*MATH 201B - Mathematics for Secondary Teachers*

3 unit(s)

Secondary school mathematics from an advanced viewpoint, plus topics from higher mathematics. Emphasizes deductive reasoning in problem solving. Applications useful to junior and senior high school teachers.

**Prerequisite(s):** Equivalent of mathematics minor or instructor consent.

**Grading:** Graded

**Note(s):** MATH 201A is not a prerequisite.

*MATH 203 - Applied Mathematics, Computation, and Statistics Projects*

3 unit(s)

Supervised teamwork to solve a substantial problem in mathematics or computer science usually supplied by an outside agency such as a local company. The number of different projects offered and the topics will vary widely. A project usually continues for two consecutive semesters.

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*MATH 211A - Geometry of Projective Spaces*

3 unit(s)

Structure of projective planes; finite planes and combinatorics; automorphism groups; configuration theorems and coordinatizations; conics; introduction to projective n-space over a field; topological properties; subgeometries.

**Prerequisite(s):** MATH 112 or MATH 115 or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 213A - Introduction to Smooth Manifolds*

3 unit(s)

Smooth manifolds and maps. Tangent bundle. Sard's theorem, transversality, Whitney embedding theorem. Vector fields and flows on manifolds, Lie derivative, Lie groups and Lie algebras. Frobenius theorem, differential forms, Stokes' theorem. Basic Morse theory. Additional topics chosen by the instructor.

**Prerequisite(s):** MATH 113 or MATH 175 or MATH 132; or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 213B - Introduction to Riemannian Geometry*

3 unit(s)

Riemannian metric and Levi-Civita connection. Geodesics, completeness and Hopf-Rinow theorem. Curvature. First and second variations of arc-length. Spaces of constant curvature. Additional topics selected by the instructor such as theorems of Myers, Hadamard, Synge, and Gauss-Bonnet.

**Prerequisite(s):** MATH 213A or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 221A - Higher Algebra I*

3 unit(s)

Topics from groups, rings, integral domains, modules, fields, vector spaces.

**Prerequisite(s):** MATH 128B or instructor consent.

**Grading:** Graded

*MATH 221B - Higher Algebra II*

3 unit(s)

Continuation of MATH 221A with additional advanced topics in algebra selected by instructor.

**Prerequisite(s):** MATH 221A or instructor consent.

**Grading:** Graded

*MATH 226 - Theory of Numbers*

3 unit(s)

Advanced topics in number theory selected by the instructor. Emphasis may be in algebraic number theory (e.g. Diophantine equations), analytic number theory (e.g. the prime number theorem), and/or computational number theory (e.g. cryptography).

**Prerequisite(s):** MATH 126 and MATH 128A or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 229 - Advanced Matrix Theory*

3 unit(s)

Eigenvalues, unitary equivalence and Schur's theorem. Normal, Hermitian and symmetric real matrices. Positive definite matrices, polar and singular value factorizations, and selected topics at the discretion of the instructor.

**Prerequisite(s):** MATH 129B or instructor consent.

**Grading:** Graded

*MATH 231A - Real Analysis*

3 unit(s)

Sigma algebras, construction of measures, differentiation, product measures, integration theory, the spaces  $L^1$  and  $C$ .

**Prerequisite(s):** MATH 131B or instructor consent.

**Grading:** Graded

*MATH 231B - Functional Analysis*

3 unit(s)

Function spaces and their duals, operators on function spaces, applications to analysis (classical and functional) and topics selected at the discretion of the instructor.

**Prerequisite(s):** MATH 231A or instructor consent.

**Grading:** Graded

*MATH 233A - Applied Mathematics I*

3 unit(s)

Derivation of the partial differential equations of classical mathematical physics. Existence and uniqueness of solutions of first order ordinary and partial differential equations. The classical theory of initial and boundary value problems for hyperbolic, parabolic and elliptic equations. Fourier series and transforms. Nonlinear partial differential equations.

**Prerequisite(s):** MATH 133B or instructor consent.

**Grading:** Graded

*MATH 234 - Advanced Dynamical Systems*

3 unit(s)

Continuous and discrete dynamical systems with applications. Topics include stability of equilibria and closed orbits, structural stability, applications in classical mechanics, biology and engineering, including control systems.

**Prerequisite(s):** MATH 134 or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 235 - Wavelets and their Applications*

3 unit(s)

Wavelets with particular emphasis on their use in the representation of digital signals and image analysis. Theory of filters, filter banks and wavelets with applications selected from image and video compression, speech, audio and ECG compression, and communication applications.

**Prerequisite(s):** MATH 39 and MATH 134, or instructor consent.

**Grading:** Graded

*MATH 238 - Advanced Complex Variables*

3 unit(s)

A course specializing in one or more of the advanced branches of the theory of complex functions.

**Prerequisite(s):** MATH 138 or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 243A - Advanced Numerical Analysis*

3 unit(s)

Finite difference methods applied to parabolic, elliptic and hyperbolic equations including numerical methods for solving the discretized problem, convergence, stability, error control, and applications.

**Prerequisite(s):** MATH 143C or MATH 143M or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 243B - Advanced Topics in Numerical Analysis*

3 unit(s)

Advanced topics in numerical methods.

**Prerequisite(s):** MATH 143C or MATH 143M; and instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 243M - Numerical Linear Algebra*

3 unit(s)

Advanced topics in numerical linear algebra.

**Prerequisite(s):** MATH 143C or MATH 143M; and instructor consent

**Grading:** Graded

*MATH 250 - Mathematical Methods for Data Visualization*

3 unit(s)

(Formerly MATH 253) Programming basics. 2D and 3D data plotting and graphing, advanced linear algebra, dimensionality reduction, visualization of high dimensional data, and applications to clustering and classification.

**Prerequisite(s):** MATH 32, MATH 39 and MATH 163 (each with a grade of B or better), or instructor consent.

**Grading:** Graded

*MATH 251 - Statistical and Machine Learning Classification*

3 unit(s)

Dimensionality reduction, instance-based classification, discriminant analysis, logistic regression, support vector machine, kernel methods, ensemble learning, neural networks and deep learning, classification of nonnumeric data.

**Prerequisite(s):** MATH 164 and MATH 250.

**Grading:** Graded

*MATH 252 - Cluster Analysis*

3 unit(s)

Cluster analysis techniques. Dissimilarities and distances. Hierarchical clustering, distance-based clustering, fuzzy clustering, spectral clustering, subspace clustering, categorical data clustering. Clustering method for high dimensional datasets.

**Prerequisite(s):** MATH 32 or MATH 32X, MATH 39 (each with a grade of "B" or better), MATH 163 and MATH 267A or CS 122. Or instructor consent.

**Grading:** Graded

*MATH 257 - Multivariate Data Analysis*

3 unit(s)

Multivariate normal distribution, Hotelling's T-squared distribution, data reduction techniques including principal component and factor analysis, canonical correlation analysis, discrimination and classification techniques. Intensive use of computer analysis and real data sets. As time permits, advanced topics chosen by instructor. Possible topics include basis functions, derivative estimation, functional principal components, functional linear model.

**Prerequisite(s):** MATH 163 and MATH 261A (each with a grade of "B" or better), or instructor consent.

**Grading:** Graded

*MATH 258 - Categorical Data Analysis*

3 unit(s)

Distributions for categorical data, descriptive and inferential methods for contingency tables, introduction to generalized linear models, logit models for binary data, and loglinear models for count data.

**Prerequisite(s):** MATH 261A with a grade of "B" or better

**Grading:** Graded

*MATH 261A - Regression Theory and Methods*

3 unit(s)

Simple linear regression, multiple regression, indicator variables, influence diagnostics, transformations, assumption analysis, generalized linear models, nonlinear regression, CART, hypothesis testing, confidence and prediction



intervals, variable selection and model building.

**Prerequisite(s):** MATH 39, and either MATH 161A or MATH 164 (each with grade "B" or better), MATH 163, MATH 267A.

**Corequisite(s):** MATH 163 and/or MATH 267A may be taken concurrently.

**Grading:** Graded

*MATH 261B - Design and Analysis of Experiments*

3 unit(s)

Principles, construction and analysis of experimental designs. ANOVA; randomized blocks, Latin squares, factorial, nested and other designs; fixed and random effects, multiple comparisons, repeated measures. Expected mean squares. Diagnostics and model comparison.

**Prerequisite(s):** MATH 261A with grade of "B" or better.

**Pre/Corequisite(s):** MATH 164

**Grading:** Graded

*MATH 263 - Stochastic Processes*

3 unit(s)

Introductory course in stochastic processes and their applications. The course will cover random walks, discrete time Markov chains, the Poisson process, continuous time Markov processes, renewal theory and queuing theory.

**Prerequisite(s):** MATH 39 and MATH 163 (each with a grade of "B" or better).

**Grading:** Graded

*MATH 264 - Bayesian Data Analysis*

3 unit(s)

A graduate-level introduction to Bayesian statistical methods for inference. Exchange-ability. Prior, likelihood, posterior and predictive distributions. Hierarchical models. Model checking.

**Prerequisite(s):** MATH 164 with a "B" or better

**Grading:** Graded

*MATH 265 - Time Series Theory and Methods*

3 unit(s)

Analysis of correlated data in time, trends, seasonal patterns, periodicity, autocorrelation, spectral/frequency analysis, filtering, ARIMA models, state-space models, forecasting. Applications from various fields including economics, signal processing, finance, atmospheric science.

**Prerequisite(s):** MATH 261A with a grade of "B" or better

**Grading:** Graded

*MATH 266 - Survival Analysis*

3 unit(s)

Statistical methods for analysis of time-to-event censored data. Survival distributions and hazard rates; Kaplan-Meier estimator; proportional hazards; partial likelihood; diagnostics. Applications from clinical trials, toxicology and tumorigenicity studies, epidemiological studies, and engineering reliability.

**Prerequisite(s):** MATH 261A

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 267 - Computational Statistics*

3 unit(s)

Simulation and Monte Carlo methods, Markov chain Monte Carlo, bootstrap and resampling, optimization, and special topics.

**Prerequisite(s):** MATH 163, MATH 167R, and MATH 261A each with a grade of "B" or better

**Grading:** Graded

*MATH 267A - Statistical Programming with R*

3 unit(s)

Introduction to the R programming language. Topics include data structures, reading and writing data, databases, data visualization, accessing packages, programming structures and functions.

**Prerequisite(s):** MATH 161A with a grade of C- or better.

**Grading:** Graded

*MATH 269 - Statistical Consulting*

3 unit(s)

Theoretical and practical aspects of statistical consulting. Development through classwork, group discussion, role-playing and real consulting activities, of tools necessary to conduct effective consulting sessions, present oral arguments and written reports, and work collaboratively to solve problems.

**Prerequisite(s):** MATH 163, MATH 164, MATH 261A, MATH 261B (each with a grade of "B" or better); and instructor consent.

**Grading:** Credit/No Credit

**Note(s):** this course is normally taken in the last semester of the MS Statistics program.

*MATH 275A - Topology*

3 unit(s)

Topological spaces and associated concepts (e.g., subspaces, product spaces, quotient spaces); continuous functions; compactness, connectedness (including path connectedness) and their local versions; countability and separation axioms; compactifications and Tychonoff's Theorem; paracompactness and metrization theorems.

**Prerequisite(s):** MATH 131A with a grade of "B" or better; or instructor consent

**Grading:** Graded

*MATH 275B - Advanced Topics in Topology*

3 unit(s)

A course specializing in one or more topics from advanced topology such as homotopy and the fundamental group, homology groups of spaces, continuum theory, function spaces, metrization, dimension theory, manifolds, topological

groups.

**Prerequisite(s):** MATH 275A or instructor consent

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 279A - Graph Theory*

3 unit(s)

Advanced course in graph theory covering graphs, digraphs, trees, networks, connectedness, eulerian circuits, hamiltonian cycles, graph embeddings, matchings, factorizations, graph colorings and Ramsey theory.

**Prerequisite(s):** MATH 179, or both MATH 142 and an upper division algebra class, or instructor consent.

**Grading:** Graded

**Note(s):** Alternate years.

*MATH 279B - Advanced Graph Theory*

3 unit(s)

Advanced topics in modern graph theory selected by instructor. Possible topics are algebraic graph theory, random graph theory, matroid theory, ramsey theory, expander graphs, and others.

**Prerequisite(s):** MATH 279A or instructor consent.

**Grading:** Graded

*MATH 280 - Graduate Individual Studies*

1-3 unit(s)

Individual study in a specific field.

**Prerequisite(s):** Department chair consent. Not available to Open University Students

**Grading:** Credit/No Credit

*MATH 281 - Research Seminar*

1-3 unit(s)

Weekly participation in the department research seminar. Topics will focus on recent developments in mathematics and emphasis will be placed on written and oral presentations.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*MATH 285 - Advanced Topics in Mathematics*

3 unit(s)

Selected topics in Mathematics. Topics vary each semester. A maximum of 12 units may be repeated.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Suitable upper division background in mathematics set by instructor.

**Grading:** Graded

*MATH 285A - Advanced Topics in Applied Mathematics*

3 unit(s)

Selected topics in Applied Mathematics. Topics vary each semester.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper-division coursework in applied mathematics or instructor consent.

**Grading:** Graded

*MATH 285M - Advanced Topics in Pure Mathematics*

3 unit(s)

Selected topics in Pure Mathematics. Topics vary each semester.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper-division coursework in mathematics or instructor consent.

**Grading:** Graded

*MATH 285S - Advanced Topics in Statistics*

3 unit(s)

Selected topics in Statistics. Topics vary each semester.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** Upper-division coursework in statistics or instructor consent.

**Grading:** Graded

*MATH 287 - Professional Development in College Teaching*

1 unit(s)

Required for all teaching assistants in the master's program. Practical and technical aspects of college teaching; current pedagogical techniques and educational issues.

*Course may be repeated for credit for up to 2 units.*

**Corequisite(s):** TA position in the Mathematics and Statistics Department

**Grading:** Credit/No Credit

*MATH 288I - Internships*

3 unit(s)

Professional work experience under the supervision of a statistician.

**Prerequisite(s):** Graduate standing and MS Statistics Project Coordinator consent.

**Grading:** Mandatory CR/NC/RP

*MATH 288J - Applied Mathematics Internship*

3 unit(s)

Professional work experience under the supervision of an applied mathematician.

**Prerequisite(s):** Graduate standing in the MS Math program and instructor consent.

**Grading:** Mandatory CR/NC/RP

*MATH 295E - Mathematics Comprehensive Exam Preparation*

3 unit(s)

Preparation for Mathematics Master's Comprehensive Examination. Review of topics and representative problems covered by the various parts of the Exam. CR grade assigned when student has passed both parts of the Comprehensive Exam. Successful completion satisfies graduate Culminating Experience requirement.

**Prerequisite(s):** Approval of Mathematics Graduate Advisor is required. Students must file for Advancement to Candidacy before enrolling. Not open to students electing Thesis/Writing Project option.

**Grading:** Mandatory CR/NC/RP

*MATH 297A - Preparation for Writing Project, Research Project or Thesis*

3 unit(s)

Supervised individual research and project work to prepare for a master's writing project, research project or thesis.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** Fully classified standing in the MS/MA Math or MS Statistics program, department chair consent.

**Corequisite(s):** GWAR

**Grading:** Credit/No Credit

*MATH 298 - Special Study*

1-4 unit(s)

Advanced individual research and writing projects.

**Prerequisite(s):** Admission to candidacy for the MA or MS degree, Math 297 and Department Chair consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*MATH 299 - Master's Thesis*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the MA or MS degree, Math 297 and Department Chair consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*MATH 1001S - Supported Instruction for MATH 001*

1 unit(s)

Reviews relevant background material prior to the corresponding content for MATH 1.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** Required corequisite for enrollment category M-III and M-IV students in MATH 1.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MATH 1010AS - Support Course for Math 10A*

*1 unit(s)*

Support course that reviews relevant background material prior to the corresponding content for MATH 10A.

*Activity 2 hours*

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Required for MATH 10A students in Math Enrollment Categories III/IV.

**Grading:** Credit/No Credit, No Degree Credit

*MATH 1010DS - Support Course for MATH 10D*

*1 unit(s)*

Support course that reviews relevant background material prior to the corresponding content for MATH 10D.

*Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** Required for MATH 10D students in Math Enrollment Categories III/IV.

**Grading:** Credit/No Credit, No Degree Credit

*MATH 1010PS - Support Course for Math 10P*

*1 unit(s)*

Corequisite support course to review relevant background material prior to the corresponding content for MATH 10P.

*Activity 2 hours*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** Required for MATH 10P students in Math Enrollment Categories III/IV.

**Grading:** Credit/No Credit, No Degree Credit

*MATH 1015D - Statway Algebra Review Activity*

*1 unit(s)*

Supplemental course for Statway students planning to enter a field requiring algebra or calculus, e.g., Business.

**Prerequisite(s):** UNVS 15F or instructor consent.

**Corequisite(s):** UNVS 15S.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No degree credit.

*MATH 1015W - Statway Supplemental Activity*

1 unit(s)

Supplemental activity course for Statway students who complete UNVS 15F (Statway A) with a grade below C-. Includes review of UNVS 15F and supporting activities for UNVS 15S.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** UNVS 15S

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MATH 1018AS - Support Course for MATH 18A*

1 unit(s)

Support course that reviews relevant background material prior to the corresponding content for MATH 18A. Required for Category M-III and Category M-IV students in MATH 18A.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Grading:** CR/NC, No Degree Credit

**Note(s):** Credit/No credit, No Degree Credit.

*MATH 1019S - Supported Instruction for MATH 19*

1 unit(s)

Reviews relevant background material prior to the corresponding content for MATH 19.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** Required corequisite for Math Enrollment Category III/IV students in MATH 19.

**Grading:** Credit/No Credit, No Degree Credit

*MATH 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MTED 184S - Math Education Phase II Seminar*

1 unit(s)

This seminar will support the student teaching field experience. Students will be asked to extend their pedagogical content knowledge in light of their phase II experiences and will be supported in the preparation of their Performance Assessment for California Teachers.

**Prerequisite(s):** EDSC 184X and good standing in the Secondary Education Credential program

**Corequisite(s):** MTED 184Y and/or MTED 184Z

**Grading:** Credit/No Credit

*MTED 184X - Student Teaching Phase I*

4 unit(s)

Student teaching in Mathematics Education (Phase I) is designed to provide students with the experiences they need to be successful in Phase II. During the Phase I semester, student teachers work with their mentor teacher in a mathematics classroom one period each day, with additional times set aside each week to confer, debrief, and plan.

**Prerequisite(s):** MTED 394

**Grading:** Credit/No Credit

*MTED 184Y - Student Teaching II - Classroom Teaching*

4-6 unit(s)

Minimum 80-120 class periods of classroom teaching, laboratory or field teaching in appropriate single subjects, grades K-12 and related teaching activities. Attendance at a weekly seminar is required.

**Prerequisite(s):** MTED 394 and joint approval of Mathematics and Education departments.

**Grading:** Credit/No Credit

*MTED 184Z - Student Teaching III - Classroom Teaching*

4-6 unit(s)

Same as MTED 184Y, including the seminar, but in a different course. May be in a different school.

**Prerequisite(s):** MTED 394 and joint approval of the Mathematics and Teacher Education Departments.

**Grading:** Credit/No Credit

*MTED 280 - Research in Math Education*

3 unit(s)

Theories of learning mathematics; recent trends in mathematics curriculum and pedagogy; types of research in mathematics education; methods of conducting research in mathematics education; developing research questions; conducting library research; and synthesis of research in various areas of mathematics education.

**Prerequisite(s):** Graduate-level core class for the MA Math, MS Math, or MS Statistics, or instructor consent.

**Grading:** Graded



*MTED 281A - Seminar in Postsecondary Mathematics Teaching I*

2 unit(s)

First semester seminar in teaching mathematics at the post-secondary level. Students will engage in initial instructor training, plan and present to their peers a sample lecture, attend two peers' classes and provide a detailed evaluation to each, have their own teaching (at the workshop or course-supplement level) evaluated by peers, and engage in our weekly meetings.

**Prerequisite(s):** Current standing as a graduate teaching assistant in the Department of Mathematics and Statistics.  
**Grading:** Credit / No Credit

**Note(s):** This course can not be used to satisfy degree requirements for the MA Math, MS Math and MS Stat programs.

*MTED 281B - Seminar in Postsecondary Mathematics Teaching II*

2 unit(s)

Second semester seminar in teaching mathematics at the post-secondary level. Students will conduct a literature review on a topic that has arisen from their own teaching, attend two peers' classes and provide a detailed evaluation to each, have their own teaching (at the Math 8/19 level) evaluated by peers, and engage in our weekly meetings.

**Prerequisite(s):** MTED 281A.  
**Grading:** Graded

**Note(s):** This course can not be used to satisfy degree requirements for the MA Mathematics, MS Mathematics and MS Statistics programs.

*MTED 281C - Seminar in Postsecondary Mathematics Teaching III*

2 unit(s)

Third semester seminar in teaching mathematics at the post-secondary level. Students will produce a training experience for future MTED 281A / MTED 281B students, including producing written materials, and conduct the training experience, attend two peers' classes and provide a detailed evaluation to each, have their own teaching (at the MATH 8/19 or other level) evaluated by peers, and engage in our weekly meetings.

**Prerequisite(s):** MTED 281B.  
**Grading:** Credit / No Credit

**Note(s):** This course can not be used to satisfy degree requirements for the MA Mathematics, MS Mathematics and MS Statistics programs.

*MTED 394 - Secondary School Mathematics*

3 unit(s)

The place and function of mathematics in secondary education, improvement and evaluation of instruction. Teaching the subject matter of secondary mathematics.

**Prerequisite(s):** MATH 201A or MATH 201B and, either passing score on the CSET exams or be within 3 courses of completing the subject matter preparation program, or instructor consent.  
**Grading:** Graded

*MTED 394F - Middle School Mathematics Methods*

3 unit(s)

The place and function of mathematics in middle grades education, improvement and evaluation of instruction. Teaching the subject matter of middle grades mathematics.

**Prerequisite(s):** EDEL 108D, Passing scores on CSET I and II or Instructor consent.

**Grading:** Graded

## Department of Meteorology and Climate Science

**Office:** Duncan Hall 620

**Telephone:** 408-924-5200 (Voice); 408-924-5191 (Fax)

**Email:** meteorology@sjsu.edu

**Website:** www.sjsu.edu/meteorology

### Professors

Alison F. C. Bridger  
Sen Chiao, Chair  
Craig Clements  
Eugene C. Cordero

### Associate Professors

Elizabeth Walsh

### Assistant Professors

Patrick Brown  
Minghui Diao

## Overview

The only one of its kind in the CSU system, the Department of Meteorology and Climate Science provides students with an in-depth knowledge of the atmosphere, preparing them for careers in the atmospheric sciences. Meteorology focuses on day-to-day weather; in climate science the focus is on the evolution of Earth's climate. We train students to measure, analyze, model and predict the state of the atmosphere into the next week and on into the next century, offering undergraduate and graduate programs that are strong in both theoretical and applied courses. Among our alumni are weather forecasters with both the National Weather Service and in the private sector, air pollution specialists, environmental consultants, science teachers, university professors, science writers and top scientists in the National Atmospheric and Oceanographic Administration (NOAA), the U.S. Armed Forces, and NASA. We are one of the most research-active departments on campus, enabling students at all levels to participate and benefit from supervised research activities.

## Undergraduate

### Meteorology, BS

The BS Meteorology degree program, offered by the Department of Meteorology and Climate Science, is designed to develop meteorologists who, upon graduation, are ready to begin professional practice in the private sector or in government, or are ready to enter graduate programs in atmospheric science.

- Program Learning Outcomes

### **Summary of Degree Units**

University Graduation Requirements	38
Major Preparation	27
Major Requirements	54
University Electives	1
<b>Total</b>	<b>120</b>

### **University Requirements for Graduation**

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### **Program Roadmaps**

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### **Major Exceptions**

This degree program meets certain University Requirements through approved major modifications. Please see the Major Exceptions area in the General Education (GE) section to identify the specific adjustments for this degree program or contact your major advisor for more details.

### **Major-Specific Graduation Requirements**

All Preparation and Required in the Major courses must be completed with a "C- or better".

### **General Education/American Institution Requirements**

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## **University Requirements (38 units)**

### **Core Lower Division General Education (15 units)**

Of the 39 units required by the university, 24 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### **Upper Division General Education (9 units)**

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (12 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

- AMS 1A - American Cultures to 1877 6 unit(s) (M4)
- AMS 1B - American Cultures 1877 to present 6 unit(s) (M5)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (27 units)

*A minimum grade of "C-" must be attained in all major and preparation courses.*

- CHEM 1A - General Chemistry 5 unit(s) (B1+B3)
- MATH 30 - Calculus I 3 unit(s) (B4)
- MATH 31 - Calculus II 4 unit(s) (B4)
- MATH 32 - Calculus III 3 unit(s) (B4)
- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 unit(s) (B1+B3)

## Major Requirements (54 units)

### Core Courses (48 units)

- METR 10 - Weather and Climate 3 unit(s) (B1)
- METR 40 - Weather Seminar 1 unit(s)
- METR 50 - Scientific Computing I 2 unit(s)
- METR 51 - Scientific Computing II 2 unit(s)
- METR 60 - Meteorology I 3 unit(s)
- METR 61 - Meteorology II 2 unit(s)
- METR 100W - Writing Workshop: Meteorological Reports 3 unit(s) (Z)
- METR 121A - Dynamic Meteorology 4 unit(s)
- METR 121B - Dynamic Meteorology 3 unit(s)

- METR 123 - Advanced Climatology 3 unit(s)
- METR 125 - Physical Meteorology 3 unit(s)
- METR 136 - Empirical Techniques in Meteorology 3 unit(s)
- METR 150 - Computers in Meteorology III 3 unit(s)
- METR 163 - Meteorological Instrumentation 3 unit(s)
- METR 170A - Weather Briefing 1 unit(s)
- METR 170B - Weather Briefing 1 unit(s)
- METR 171A - Synoptic Weather Analysis and Forecasting 3 unit(s)
- METR 172 - Mesoscale Meteorology 3 unit(s)
- METR 179 - Topics in Senior Thesis 1-2 unit(s) (2 units required)

## Major Electives (6 units)

Complete two courses from:

- METR 130 - Boundary Layer Meteorology 3 unit(s)
- METR 131 - Air Pollution Meteorology 3 unit(s)
- METR 155 - Remote Sensing 3 unit(s)
- METR 160 - Tropical Meteorology 3 unit(s)
- METR 161 - Introduction to Hydrometeorology 3 unit(s)
- METR 164 - Introduction to Fire Weather 3 unit(s)
- METR 165 - Mountain Meteorology 3 unit(s)
- METR 166 - Field Studies in Meteorology 3 unit(s)
- METR 170C - Weather Briefing III 1 unit(s)
- METR 171B - Synoptic Weather Analysis and Forecasting 3 unit(s)
- METR 173 - Global Climate Modeling 3 unit(s)
- METR 174 - Climate Change Solutions 3 unit(s)
- METR 185 - Special Topics 1-3 unit(s)

## University Electives (0-1 units)

## Total Units Required (120 units)

# Meteorology, Climate Science Concentration, BS

The BS Meteorology, concentration in Climate Science program, offered by the Department of Meteorology and Climate Science, is designed to prepare students for careers in emerging fields of climate change studies and mitigation, and related fields including energy and carbon management. Graduating students will be ready to begin careers in the private sector or in government, or will be ready to enter graduate programs in the atmospheric/climate sciences.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements 35

Major Preparation 20

Major Core Requirements	53
Concentration Electives	9
University Electives	3
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (35 units)

### Core Lower Division General Education (21 units)

Of the 39 units required by the university, 18 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (6 units)

Of the 9 units required by the university, 3 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (20 units)

- BIOL 31 - Principles of Biology II 4 *unit(s)* (B2+B3)
- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- PHYS 2A - Fundamentals of Physics 4 *unit(s)* (B1+B3)
- PHYS 2B - Fundamentals of Physics 4 *unit(s)* (B1+B3)

## Major Requirements (62 units)

### Core Courses (53 units)

- COMM 146F - Communication and the Environment 4 *unit(s)*
- ENVS 1 - Introduction to Environmental Issues 3 *unit(s)* (D1)
- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 133 - Sustainable Energy Strategies 3 *unit(s)*
- GEOL 3 - Planet Earth 3 *unit(s)* (B1)
- ISE 103 - Life Cycle Engineering 3 *unit(s)*
- METR 12 - Global Warming: Science and Solutions 3 *unit(s)* (B1)
- METR 40 - Weather Seminar 1 *unit(s)*
- METR 50 - Scientific Computing I 2 *unit(s)*
- METR 51 - Scientific Computing II 2 *unit(s)*

- METR 60 - Meteorology I 3 *unit(s)*
- METR 71 - Introduction to Climate Science 2 *unit(s)*
- METR 100W - Writing Workshop: Meteorological Reports 3 *unit(s)* (Z)
- METR 123 - Advanced Climatology 3 *unit(s)*
- METR 135 - The Global Carbon Cycle 3 *unit(s)*
- METR 136 - Empirical Techniques in Meteorology 3 *unit(s)*
- METR 163 - Meteorological Instrumentation 3 *unit(s)*
- METR 173 - Global Climate Modeling 3 *unit(s)*
- METR 174 - Climate Change Solutions 3 *unit(s)*

## Electives (9 units)

Complete nine units from:

- ENVS 107 - Introduction to Environmental Economics and Policy 3 *unit(s)*
- ENVS 116 - Solar Energy Analysis 3 *unit(s)*
- ENVS 124 - Introduction to Environmental Law 3 *unit(s)*
- ENVS 128 - Water Resource Management 3 *unit(s)*
- ENVS 130 - Energy Policy Analysis 3 *unit(s)*
- ENVS 132 - Solar Home Design 3 *unit(s)*
- GEOG 120 - Food Supply and Agricultural Systems 3 *unit(s)*
- GEOG 124 - Topics in Physical Geography 3 *unit(s)*
- GEOG 130 - Natural Resources 3 *unit(s)*
- GEOG 170 - Introduction to Mapping and Geographic Information Systems 3 *unit(s)*
- GEOG 171 - Advanced Geographic Information Systems 3 *unit(s)*
- GEOG 181 - Remote Sensing: Basic Theory and Image Interpretation 3 *unit(s)*
- GEOG 182 - Remote Sensing: Digital Analysis 3 *unit(s)*
- METR 131 - Air Pollution Meteorology 3 *unit(s)*

## University Electives (3 units)

## Total Units Required (120 units)

# Master

## Meteorology, MS

The Master of Science in Meteorology prepares students for high-level professional responsibility, independent research, and continued graduate work in atmospheric science. Graduate-level theoretical and applied meteorology courses and a substantial research project lead to the preparation of the master's thesis, the culmination of the degree plan of study. Departmental opportunities for financial support include research and teaching assistantships.

The Department of Meteorology and Climate Science has one of the most active research programs at SJSU. The meteorology faculty has a wide range of expertise and supports a broad range of research activity. Their areas of specialization include Weather Analysis and Forecasting, Fire Weather, Urban Meteorology and Air Pollution, Atmospheres of Other Planets, Tropical Meteorology, Radar and Satellite Remote Sensing, Cloud and Aerosol Physics, Atmospheric Dynamics, Meteorological Data Processing, Data Communications, and Data Acquisition and Display.



Our graduates find employment in forecasting, research, consulting and media, and continue for the Ph.D. degree at top universities throughout the country. Department alumni include top scientists and forecasters in The National Oceanic and Atmospheric Administration (NOAA), the National Weather Service (NWS), the United States Air Force and Navy, NASA, various state and federal air pollution agencies, the aerospace industry, and aviation operations. Others of our alumni are university professors, high school and community college teachers, TV forecasters, meteorologists in the wind power, electric, gas and oil industries, science writers, and consultants for legal cases, air pollution problems and building design.

## Admission Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system and meet all the university admission requirements. Applicants apply separately to the department to obtain admission into the MS, Meteorology program. See the GAPE Graduate Admissions website and this Catalog for general information about graduate admissions at SJSU.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE. For TOEFL Requirements, see the Policies and Procedures section, Graduate and Post-Baccalaureate Information.

## Requirements for Admission to Classified Standing

Students are admitted to the MS, Meteorology program in Classified or Conditional Standing. Admission to classified standing requires the following. Applicants must:

- Possess the equivalent of an SJSU BS in Meteorology or, with the approval of the department graduate committee, a degree in physical science or mathematics. Students entering with degrees in other areas may be admitted to conditionally classified standing, and will be required to make up deficiencies (e.g., in meteorology and math) before enrolling in the core graduate classes.
- Have earned minimum GPA of 2.75 (on a scale of 0-4) in their BS degrees.
- Submit Graduate Record Examination (GRE) scores. More information about the GRE can be found on the Graduate Program Test Requirements webpage.

## Requirements for Admission to Conditionally Classified Standing

Those applicants who meet minimum requirements for graduate admission, but do not meet departmental requirements, may be admitted to conditionally classified standing on the approval of the department graduate committee. The individual admission notification will explain the required terms and conditions for attaining Classified standing. Resolving deficiencies usually involve the successful completion of undergraduate courses in meteorology courses and math. Upon completion of these courses, the student advances from conditional to classified standing via petition to Graduate Studies.

## Requirements for Advancement to Candidacy

University requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section. Competence in the general areas covered by METR 121A - Dynamic Meteorology, METR 125 - Physical Meteorology, either METR 60 - Meteorology I or METR 171A - Synoptic Weather Analysis and

Forecasting (Synoptic Meteorology, to be decided in consultation with the department graduate committee), and METR 100W - Writing Workshop: Meteorological Reports or METR 202 - Research Methods in Meteorology, must be demonstrated to the Department Graduate Committee **prior** to admission to candidacy. This can be done by satisfactory completion of these courses (or their equivalent) with a minimum grade of "B" in each, or successful completion of a comprehensive written examination. Students should consult with the graduate advisor concerning these alternatives. A student admitted in classified standing may be admitted to candidacy after completion of the terms and conditions specified in the admission notification letter.

The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website. MS, Meteorology students are currently required to take METR 202 to satisfy this University requirement.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures. Courses taken to meet the requirements for admission to candidacy will not be counted as part of the MS program. All students must complete the Graduation Writing Assessment Requirement.

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience

Students complete the Plan A (Thesis) as their MS, Meteorology degree program culminating experience. The Plan B (Project) option is only offered under exceptional circumstances and students may not choose it themselves.

#### **Plan A (Thesis)**

This option requires an acceptable written research thesis and a successful oral presentation of the thesis. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. Students in the thesis option enroll in one unit of METR 285 - Colloquium and two units of METR 299 - Master's Thesis or Project in their final semester. Students who complete the METR 299 but not its associated thesis enroll in the 1290R until both are completed.

#### **Plan B (Project)**

The Project option is open to students who can demonstrate to the Departmental Graduate Committee that they possess adequate professional meteorological experience to substitute for the research thesis. It is only offered under exceptional circumstances and students may not choose it themselves. Students approved for the Plan B option will select a suitable topic in meteorology on which to prepare a carefully documented written report in consultation with the project advisor. They will enroll in one unit of METR 285 - Colloquium and an additional two units of METR 298, Research in their final semester. Students who complete their final METR 298 but not its associated thesis enroll in the 1290R until both are completed.

## Master's Requirements (30 units)

### Core Courses (12 units)

- METR 202 - Research Methods in Meteorology 3 *unit(s)* (GWAR)
- METR 205 - Advanced Atmospheric and Climate Dynamics 3 *unit(s)*
- METR 215 - Advanced Physical Meteorology 3 *unit(s)*
- METR 240 - Numerical Modeling 3 *unit(s)*  
or METR 241 - Parameterization in NWP

### Research (6 units)

- METR 298 - Research 1-4 *unit(s)* (At least 3 units of METR 298 in each of two semesters.)

### Advanced Courses (3 units)

Complete 3 units of the following selected in consultation with the graduate advisor:

- METR 225 - Topics in Advanced Atmosphere Dynamics 3 *unit(s)*
- METR 206 - Advanced Synoptic Meteorology 3 *unit(s)*
- METR 209 - Adv Fire Behavior 3 *unit(s)*
- METR 241 - Parameterization in NWP 3 *unit(s)*
- METR 245 - Mesoscale Modeling 3 *unit(s)*
- METR 280 - Recent Developments in Meteorology 1-3 *unit(s)*

### Electives (6 units)

6 units of the following selected in consultation with the graduate advisor:

Students may take 3 additional units of Advanced Courses as an elective. Students may also take approved elective(s) in physics, computer science, and/or mathematics. Elective units cannot include METR 285, METR 298 or METR 299.

- METR 121B - Dynamic Meteorology 3 *unit(s)*
- METR 123 - Advanced Climatology 3 *unit(s)*
- METR 125 - Physical Meteorology 3 *unit(s)*
- METR 130 - Boundary Layer Meteorology 3 *unit(s)*
- METR 131 - Air Pollution Meteorology 3 *unit(s)*
- METR 135 - The Global Carbon Cycle 3 *unit(s)*
- METR 150 - Computers in Meteorology III 3 *unit(s)*
- METR 155 - Remote Sensing 3 *unit(s)*
- METR 160 - Tropical Meteorology 3 *unit(s)*
- METR 163 - Meteorological Instrumentation 3 *unit(s)*
- METR 164 - Introduction to Fire Weather 3 *unit(s)*
- METR 165 - Mountain Meteorology 3 *unit(s)*
- METR 166 - Field Studies in Meteorology 3 *unit(s)*
- METR 171B - Synoptic Weather Analysis and Forecasting 3 *unit(s)*
- METR 172 - Mesoscale Meteorology 3 *unit(s)*

- METR 173 - Global Climate Modeling 3 *unit(s)*
- METR 185 - Special Topics 1-3 *unit(s)*

## Culminating Experience (3 units)

*Students in this program complete a Plan A (Thesis)*

### Plan A (Thesis)

- METR 285 - Colloquium 1 *unit(s)* (*Minimum one unit*)
- METR 299 - Master's Thesis or Project 1-6 *unit(s)* (*2 units METR 299 in the final semester*)

### Plan B (Project)

- METR 285 - Colloquium 1 *unit(s)* (*Minimum one unit*)
- METR 298 - Research 1-4 *unit(s)* (*2 units METR 298 in the final semester*)

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

## Minor

### Atmospheric and Seismic Hazards Minor

This non-mathematical minor is designed to increase student understanding of natural and man-made meteorological, geological and environmental hazards.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (13 units)

#### Required Courses (10 units)

- METR 112 - Global Climate Changes 3 *unit(s)* (*R*)
- METR 170A - Weather Briefing 1 *unit(s)* (*Taken in the Fall Semester*)
- GEOL 3 - Planet Earth 3 *unit(s)* (*B1*)

### Complete One Course From:

- METR 10 - Weather and Climate 3 *unit(s)* (B1)
- METR 12 - Global Warming: Science and Solutions 3 *unit(s)* (B1)

### Electives (3 units)

*Please note: If a student is taking this minor as a requirement for their major, both courses may be required. Please see advisor for more details.*

- METR 113 - Atmospheric Pollution 3 *unit(s)* (R)
- GEOL 112 - Hazards, Risks of Earthquakes and Volcanoes 3 *unit(s)* (R)

### Total Units Required (13 units)

## Climate Change Strategies Minor

This minor is designed to increase students understanding of climate change, potential impacts, and strategies to deal with what's coming.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (18 units)

#### Meteorology Courses (9 units)

- METR 12 - Global Warming: Science and Solutions 3 *unit(s)* (B1)
- METR 112 - Global Climate Changes 3 *unit(s)* (R)

### Complete One Course From:

- METR 113 - Atmospheric Pollution 3 *unit(s)* (R)
- METR 115 - Wildfire in the Earth System 3 *unit(s)* (R)

#### Environmental Studies Courses (9 units)

- ENVS 119 - Energy and the Environment 3 *unit(s)* (R)
- ENVS 130 - Energy Policy Analysis 3 *unit(s)*

### Complete One Course From:

- ENVS 116 - Solar Energy Analysis 3 *unit(s)*
- ENVS 133 - Sustainable Energy Strategies 3 *unit(s)*

## Total Units Required (18 units)

# Meteorology Minor

This minor is designed to prepare science and engineering students to solve interdisciplinary problems involving the atmospheric sciences.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (13 units)

### Required Courses (10 units)

*Taken in the Fall semester*

- METR 60 - Meteorology I 3 *unit(s)*
- METR 170A - Weather Briefing 1 *unit(s)*

### Complete One Course From:

- METR 10 - Weather and Climate 3 *unit(s)* (B1)
- METR 12 - Global Warming: Science and Solutions 3 *unit(s)* (B1)

### Complete One Course From:

- METR 123 - Advanced Climatology 3 *unit(s)*
- METR 136 - Empirical Techniques in Meteorology 3 *unit(s)*
- METR 163 - Meteorological Instrumentation 3 *unit(s)*

## Electives (3 units)

*Please note: If a student is taking this minor as a requirement for their major, both courses may be required. Please see advisor for more details.*

- METR 112 - Global Climate Changes 3 *unit(s)* (R)
- METR 113 - Atmospheric Pollution 3 *unit(s)* (R)

## Total Units Required (13 units)

*METR 10 - Weather and Climate*

3 *unit(s)*

A descriptive introduction to the atmosphere, with emphasis on weather phenomena, climate, climate change, forecasting and air pollution.

*Satisfies B1: Physical Science*

**Grading:** Graded

*METR 12 - Global Warming: Science and Solutions*

*3 unit(s)*

Examination of past, present and future climates. Examination of global warming and mitigation strategies.

*Satisfies B1: Physical Science*

**Grading:** Graded

*METR 40 - Weather Seminar*

*1 unit(s)*

Meteorology program planning; careers in Meteorology; a survey of major problems in the atmosphere; faculty research programs; department, college and university resources, survival in the university; strategies for success.

**Grading:** Credit/No Credit

*METR 50 - Scientific Computing I*

*2 unit(s)*

Computer systems and structured programming, emphasizing solutions of problems in the atmospheric sciences using Python programming. Includes the UNIX operating system, mass data handling and data visualization.

*Lecture 1 hour/Lab 3 hours.*

**Prerequisite(s):** MATH 30 or MATH 30XMETR 60 .

**Corequisite(s):** For METR majors: MATH 31 or MATH 31X, METR 60, PHYS 50. For Climate Science majors: METR 60 and CHEM 1A.

**Grading:** Graded

*METR 51 - Scientific Computing II*

*2 unit(s)*

Computer systems and advanced programming in Python emphasizing solutions of problems in the atmospheric sciences. Other related topics include UNIX scripting, advanced data visualization and basic HTML techniques. Introduction to Fortran.

*Misc/Lab: Lecture 1 hours/lab 3 hours.*

**Prerequisite(s):** METR 50 (or equivalent).

**Corequisite(s):** For METR majors: METR 61. For Climate Science majors: METR 61 or METR 71.

**Grading:** Graded

*METR 60 - Meteorology I*

*3 unit(s)*

A quantitative introduction to Atmospheric Science for Meteorology majors.

*Misc/Lab: Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** MATH 30 or MATH 30P or MATH 30PL or MATH 30X (and PHYS 2B for Climate Science Concentration).

**Corequisite(s):** MATH 31 or MATH 31X, PHYS 50, METR 50 (or CHEM 1A and METR 50 for Climate Science Concentration).

**Grading:** Graded

*METR 61 - Meteorology II*

2 unit(s)

A continuation of METR 60, introducing Meteorology majors to quantitative aspects of the science.

**Prerequisite(s):** METR 60, CHEM 1A.

**Corequisite(s):** METR 51, MATH 32, PHYS 52, METR 163.

**Grading:** Graded

*METR 71 - Introduction to Climate Science*

2 unit(s)

Continuation of METR 60, but with an emphasis on Climate Science.

*Misc/Lab: Lecture 2 hour/Lab 3 hours*

**Prerequisite(s):** METR 60.

**Corequisite(s):** METR 51, BIOL 31.

**Grading:** Graded

*METR 100W - Writing Workshop: Meteorological Reports*

3 unit(s)

Introduction to scientific writing, research methods and preparation of technical reports in the meteorology field. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Corequisite(s):** METR 121A or METR 135, or instructor consent.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*METR 112 - Global Climate Changes*

3 unit(s)

Formation and evolution of the atmosphere. Climate changes in the Earth's past. Interactions between climate and life. Anthropogenic climate change. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*



**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*METR 113 - Atmospheric Pollution*

3 unit(s)

Descriptive discussion of the sources, effects and fates of pollutants in the atmosphere. Interaction of pollutants and weather systems, including acid precipitation, ozone destruction; air pollution policy and regulations.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*METR 115 - Wildfire in the Earth System*

3 unit(s)

Introduces students to the science of wildland fire on earth and in various ecosystems. Topics include extreme fire behavior in a changing climate, fire weather, fire danger, and national policies on fire suppression strategies and prescribed fire use in land management. GE Area: R.

*Satisfies SJSU Studies R: Earth & Environment.*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*METR 121A - Dynamic Meteorology*

4 unit(s)

Theoretical examination of the motion and behavior of the atmosphere. Governing equations and applications; vorticity; waves; numerical prediction; baroclinic instability.

**Prerequisite(s):** METR 51, METR 61.

**Corequisite(s):** MATH 33A.

**Grading:** Graded

**Note(s):** Year course.

*METR 121B - Dynamic Meteorology*

3 unit(s)

Theoretical examination of the motion and behavior of the atmosphere. Governing equations and applications; vorticity; waves; numerical prediction; baroclinic instability.

**Prerequisite(s):** METR 121A.

**Grading:** Graded

**Note(s):** Year course.

*METR 123 - Advanced Climatology*

3 unit(s)

The physical basis of climate with emphasis on the theory of global warming.

**Prerequisite(s):** METR 61 or METR 71.

**Grading:** Graded

*METR 125 - Physical Meteorology*

3 unit(s)

Cloud and precipitation physics, atmospheric electricity, optics and acoustics.

**Prerequisite(s):** METR 124 or instructor consent.

**Grading:** Graded

*METR 130 - Boundary Layer Meteorology*

3 unit(s)

Structure of the atmospheric planetary boundary layer with applications to air pollution, agriculture and cities; meso-circulations such as sea breeze.

**Prerequisite(s):** METR 121B or instructor consent.

**Grading:** Graded

*METR 131 - Air Pollution Meteorology*

3 unit(s)

Quantitative description of contaminants in the atmosphere: sources, dispersion and sinks; their effects on atmospheric energy balance and condensation.

**Prerequisite(s):** METR 121B or instructor consent.

**Grading:** Graded

*METR 135 - The Global Carbon Cycle*

3 unit(s)

A quantitative examination of the global carbon cycle through the solid earth, atmosphere, oceans, and biosphere.

**Prerequisite(s):** METR 71.

**Grading:** Graded

*METR 136 - Empirical Techniques in Meteorology*

3 unit(s)

Applications of statistical methods to analysis of meteorological and climatological data; use of the internet to obtain climate data; objective forecasting methods; elementary decision theory; data analysis using contemporary computer software.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** METR 61 or METR 71 (for Climate Science Concentration), or STAT 95 and METR 12 (or METR 112), and upper division standing (for ENV5 majors).

**Grading:** Graded

*METR 143C - Numerical Analysis and Scientific Computing*

3 unit(s)

Development and comparison of important algorithms for scientific computing in terms of efficiency, accuracy and reliability. Topics include nonlinear equations, interpolation, approximation theory, differentiation, integration, differential equations, numerical stability and error analysis. Substantial assignments using contemporary software packages and professional subprogram libraries.

**Prerequisite(s):** MATH 32 or MATH 32X, one of CS 22A, MATH 50, CS 46A, CS 49C or CS 49J, one of MATH 33A, MATH 33LA, or MATH 34 (with a grade of "C-" or better in each); or instructor consent.

**Grading:** Graded

*METR 150 - Computers in Meteorology III*

3 unit(s)

Computer applications to advanced problems in atmospheric science, including specialized computer systems, mass data handling, weather data communications.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** MATH 043, METR 51 or instructor consent.

**Grading:** Graded

**Note(s):** Offered only occasionally.

*METR 155 - Remote Sensing*

3 unit(s)

This course will cover the background of remote sensing, current status of sensors and platforms, and recent satellite-based results on climate change.

**Prerequisite(s):** METR 124.

**Grading:** Graded

*METR 160 - Tropical Meteorology*

3 unit(s)

Local and diurnal variations in tropical weather; mean and synoptic fields of meteorological parameters in the tropics; general circulation; hurricanes; monsoons.

**Prerequisite(s):** METR 121B.

**Grading:** Graded

**Note(s):** Offered on an irregular basis only.

*METR 161 - Introduction to Hydrometeorology*

3 unit(s)

Survey of the transfer of water and energy between the land surface and the lower atmosphere, including the processes of precipitation, evaporation, and stream flow. Water resources and policy initiatives incorporated where applicable.

**Grading:** Graded

*METR 163 - Meteorological Instrumentation*

3 unit(s)

Measurement techniques and instruments used in atmospheric and climate sciences, using lecture, laboratory and field work. Students will learn techniques of instrument calibration, deployment, and data acquisition.

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** METR 60 (or PHYS 2B; CHEM 1A; STAT 95; AND METR 12 or METR 112 for ENVS majors).

**Corequisite(s):** METR 61 (METR majors)

**Grading:** Graded

*METR 164 - Introduction to Fire Weather*

3 unit(s)

Quantitative description of weather conditions that lead to fire danger around the world and atmospheric conditions leading to extreme fire behavior.

**Prerequisite(s):** METR 61.

**Grading:** Graded

*METR 165 - Mountain Meteorology*

3 unit(s)

Examination of atmospheric processes in mountain environments including micro and mesoscale wind systems, precipitation processes and convection, snow and avalanche mechanics.

**Prerequisite(s):** METR 61.

**Corequisite(s):** METR 121A.

**Grading:** Graded

*METR 166 - Field Studies in Meteorology*

3 unit(s)

Intensive summer observing campaign in the field.

*Misc/Lab: Lecture 3 hour/Activity 4 hours*

**Prerequisite(s):** METR 100W, METR 121B, METR 124, METR 170B.

**Grading:** Graded

*METR 168A - Global Climate Change I*

6 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*METR 168B - Global Climate Change II*

3 unit(s)

Scientific and social scientific approaches to the process and effects of global climate change: Climate changes in the Earth's past, interactions between climate and life, anthropogenic climate change, socioeconomic contexts of environmental effects, cultural influences on climate change mitigation strategies.

*Satisfies SJSU Studies R+S+V: Earth & Environment + Self, Society & Equality in the U.S. + Culture, Civilization & Global Understanding*

**Prerequisite(s):** COMM 168A / ENVS 168A / GEOL 168A / HUM 168A / METR 168A; Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*METR 170A - Weather Briefing*

1 unit(s)

Weather briefing associated with METR 121A, METR 121B.

*Misc/Lab: Lab 3 hours.*

**Corequisite(s):** METR 121A.

**Grading:** Credit/No Credit

**Note(s):** Year course 1 unit each semester.

*METR 170B - Weather Briefing*

1 unit(s)

Weather briefing associated with METR 121A, METR 121B.

*Misc/Lab: Lab 3 hours.*

**Corequisite(s):** METR 121B.

**Grading:** Credit/No Credit

*METR 170C - Weather Briefing III*

1 unit(s)

Weather analysis and forecasting lab. Simulated professional forecasts and briefings of the current state of the atmosphere at the large and local scales using real time forecast data.

4 hours Lab.

**Prerequisite(s):** METR 170A, METR 170B, and METR 171A.

**Corequisite(s):** METR 172.

**Grading:** Credit/No Credit

**Note(s):** Preparation for WxChallenge.

*METR 171A - Synoptic Weather Analysis and Forecasting*

3 unit(s)

Structure and behavior of atmospheric circulation systems, practical weather analysis and forecasting techniques. Acquisition, manipulation and display of real-time data sets, verbal presentations of weather analyses and forecasts.

*Misc/Lab: Lecture 1 hour/lab 6 hours each semester.*

**Prerequisite(s):** METR 100W, METR 121B or instructor consent.

**Pre/Corequisite(s):** METR 125.

**Grading:** Graded

**Note(s):** Year course.

*METR 171B - Synoptic Weather Analysis and Forecasting*

3 unit(s)

Structure and behavior of atmospheric circulation systems, practical weather analysis and forecasting techniques. Acquisition, manipulation and display of real-time data sets, verbal presentations of weather analyses and forecasts.

*Misc/Lab: Lecture 1 hour/lab 6 hours each semester.*

**Prerequisite(s):** METR 171A.

**Grading:** Graded

*METR 172 - Mesoscale Meteorology*

3 unit(s)

Structure and behavior of mesoscale atmospheric circulations, practical weather forecasting techniques.

**Prerequisite(s):** METR 171A.

**Grading:** Graded

*METR 173 - Global Climate Modeling*

3 unit(s)

Senior level course focused on climate modeling using the CMIP 3 intercomparison (models used for the IPCC 2007) as the primary study area.

*Misc/Lab: Lecture 3 hour/Lab 3 hours*

**Prerequisite(s):** METR 51, METR 71, METR 100W, METR 136.

**Grading:** Graded

*METR 174 - Climate Change Solutions*

*3 unit(s)*

Senior level capstone course in which students will define and conduct a project which is both climate change related and of a practical nature.

**Prerequisite(s):** METR 173, METR 100W.

**Grading:** Graded

*METR 179 - Topics in Senior Thesis*

*1-2 unit(s)*

Supervised research and the preparation of a senior thesis.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** METR 100W. Not available to Open University Students.

**Pre/Corequisite(s):** METR 171A (first semester) METR 171B (second semester).

**Grading:** Credit/No Credit

*METR 180 - Individual Studies*

*1-4 unit(s)*

Independent work on topics by special arrangement. A maximum of four units may be repeated.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Meteorology major or minor. Not available to Open University Students.

**Grading:** Credit/No Credit

*METR 182 - Tutor Assistant in Meteorology*

*1 unit(s)*

Supervised instructional experience as a tutor assistant. A maximum of four units may be repeated.

*Course may be repeated for credit for up to 4 units.*

**Prerequisite(s):** Upper division standing and instructor consent. Not available to Open University Students.

**Grading:** Credit/No Credit

*METR 185 - Special Topics*

*1-3 unit(s)*

Selected topics in meteorology. Topics vary and are announced each semester.

**Prerequisite(s):** METR 121B.

**Grading:** Graded

*METR 192 - International Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*METR 202 - Research Methods in Meteorology*

3 unit(s)

The nature of research in meteorology with particular reference to formulation of the problem, methods of attack and presentation of results. Proposal writing and selection of MS thesis topic.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** Offered on an irregular basis only. This course satisfies graduate-level GWAR in this master's program.

*METR 205 - Advanced Atmospheric and Climate Dynamics*

3 unit(s)

Dynamics of larger-scale atmospheric flows over short and climate timescales. Quasi-geostrophic theory and applications; atmospheric waves; baroclinic instability; energetics of atmospheric and climate systems; dynamics of the general circulation; dynamics of the climate system; dynamics of climate change.

**Prerequisite(s):** METR 121B or equivalent

**Grading:** Graded

*METR 206 - Advanced Synoptic Meteorology*

3 unit(s)

Structure and theory of the observed features of atmospheric circulation regimes. Dynamical and thermodynamical interpretation of various scales of disturbances; application of numerical weather analysis and prediction methods; use of satellite data.

**Prerequisite(s):** METR 171B (or equivalent).

**Grading:** Graded

**Note(s):** Offered on an irregular basis only.

*METR 209 - Adv Fire Behavior*

3 unit(s)

Advanced topics in meteorology of extreme fire behavior. Includes fire-atmosphere interactions, microscale turbulence, flame properties, combustion physics, fuel dynamics, and extreme fire behavior such as fire whirls. Offered every fourth year.

**Prerequisite(s):** METR 124 or instructor consent.

**Grading:** Graded



*METR 215 - Advanced Physical Meteorology*

3 unit(s)

Thermodynamics of moist air; nucleation processes; particulates in air, microphysics and cloud dynamics, sampling techniques.

**Prerequisite(s):** METR 125 (or equivalent).

**Grading:** Graded

*METR 225 - Topics in Advanced Atmosphere Dynamics*

3 unit(s)

Gravity wave theory and observation; atmospheric tides; chaos theory; climate change dynamics; teleconnections; the MJO.

**Prerequisite(s):** METR 205 or equivalent.

**Grading:** Graded

*METR 240 - Numerical Modeling*

3 unit(s)

Numerical analysis and prediction in meteorology. Numerical methods and their errors; finite-difference and spectral methods; atmospheric models.

**Prerequisite(s):** METR 50 (or equivalent); METR 205A or instructor consent.

**Grading:** Graded

*METR 241 - Parameterization in NWP*

3 unit(s)

Studies of parameterization schemes for sub-gridscale physics in numerical models. Included are schemes for surface fluxes, soil-vegetation models, convection, clouds, and radiative transfer. Why these are needed, and how they are developed and implemented.

**Prerequisite(s):** METR 240

**Grading:** Graded

*METR 245 - Mesoscale Modeling*

3 unit(s)

Formulation and solution techniques for numerical models of the polluted atmospheric boundary layer, including meso-circulations such as sea breezes.

**Prerequisite(s):** METR 130 and METR 240

**Grading:** Graded

*METR 245L - Mesoscale Modeling Lab*

1 unit(s)

Experience porting, compiling, initializing and running mesoscale models, data analysis and visualization.

**Prerequisite(s):** METR 245.

**Grading:** Graded

*METR 280 - Recent Developments in Meteorology*

1-3 unit(s)

Intensive study of a particular topic in the atmospheric sciences with special emphasis on recent research results, such as instrumentation or modeling techniques. Topics vary and are announced each semester.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*METR 285 - Colloquium*

1 unit(s)

Advanced studies in special fields, including original work by faculty, guest speakers and graduate students. One presentation required of each enrolled student and attendance required for all graduate students.

**Prerequisite(s):** Instructor consent.

**Grading:** Mandatory CR/NC/RP

*METR 298 - Research*

1-4 unit(s)

Supervised individual laboratory or field work.

**Prerequisite(s):** Instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*METR 299 - Master's Thesis or Project*

1-6 unit(s)

**Prerequisite(s):** Admission to candidacy for the MS degree and approval of topic by thesis advisor. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

## Department of Physics and Astronomy

**Office:** Science Building 148

**Telephone:** 408-924-5210

**Email:** physics-astronomy@sjsu.edu

**Website:** physics.sjsu.edu

### Professors

Ramendra D. Bahuguna

Alejandro L. Garcia

Monika E. Kress, Chair

Kenneth Wharton

**Associate Professors**

Peter T. Beyersdorf  
 Ranko Heindl  
 Ehsan Khatami  
 Cassandra Paul  
 Aaron Romanowsky  
 Neil Switz

**Assistant Professors**

Benedikt Harrer  
 Hilary Hurst  
 Thomas Madura  
 Gina Quan  
 Christopher Smallwood

## Overview

At the core of all science, physics helps us understand chemical reactions, protein folding, the Earth's interior, and the life cycle of stars. Among much else, physicists invented the semiconductor, the laser, and the electron microscope. They play key roles in the design and operation of spacecraft and in the development of electronic and optical instrumentation. The Department of Physics and Astronomy offers an MS degree in physics and two undergraduate degrees: (1) a BS that prepares students for professional careers in applied physics or graduate study, and (2) a BA that combines a strong foundation in physics with electives that allow for a second area of concentration, such as computer science, chemistry, science education, or math. Our faculty are experts in lasers and optics, computational physics, condensed matter, astrophysics, and physics education research. The department receives on average approximately \$1.8 million annually in external funding for sponsored research.

## Undergraduate

### Physics, BA

This 120-unit program, offered by the Department of Physics and Astronomy, provides a strong foundation in physics while allowing sufficient electives for the student to pursue a second program of study in another field (e.g., science education, business, math, or another science; transfer students must take at least 12 units of upper division physics major courses at SJSU with a GPA of 2.0 or better in these courses).

- Program Learning Outcomes

**Summary of Degree Units**

University Graduation Requirements	44
Major Preparation	18
Major Requirements	46
University Electives	12

**Total** **120**

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (18 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*

## Major Requirements (46 units)

### Core Courses (46 units)

- PHYS 20 - Invitation to Physics and Astronomy 1 *unit(s)*
- PHYS 40 - Introduction to Computational Physics 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (B1+B3)
- PHYS 105A - Advanced Mechanics I 4 *unit(s)*
- PHYS 110A - Electricity and Magnetism I 3 *unit(s)*
- PHYS 120A - Electronics, Data Acquisition & Analysis 3 *unit(s)*
- PHYS 122 - Modern Physics 4 *unit(s)*
- PHYS 130 - Mathematical Methods in Physics 4 *unit(s)*
- PHYS 160 - Thermodynamics and Statistical Physics 3 *unit(s)*
- Additional units of upper division physics 9 *unit(s)*

## University Electives (12 units)

## Total Units Required (120 units)

# Physics, BS

This 120-unit program, offered by the Department of Physics and Astronomy, prepares students for professional positions in applied and computational physics or for graduate study (transfer students must take at least 12 units of upper division physics major courses at SJSU with a GPA of 2.0 or better in these courses).

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	34
Major Requirements	39
University Electives	3
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

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## University Requirements (44 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

**Note: Students who have completed the ADT Transfer degree (under SB 1440) for this major will have completed all lower division GE requirements and should follow the 60 unit guarantee roadmap. Meet with an advisor prior to registering for your first semester for the 60 unit roadmap or Specific questions.**

## Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

### U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

### Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

### Physical Education (2 units)

### Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

### Major Preparation (34 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)

- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)
- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*
- PHYS 20 - Invitation to Physics and Astronomy 1 *unit(s)*
- PHYS 40 - Introduction to Computational Physics 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (B1+B3)

## Major Requirements (39 units)

### Core Courses (33 units)

- PHYS 105A - Advanced Mechanics I 4 *unit(s)*
- PHYS 110A - Electricity and Magnetism I 3 *unit(s)*
- PHYS 110B - Electricity and Magnetism II 3 *unit(s)*
- PHYS 120A - Electronics, Data Acquisition & Analysis 3 *unit(s)*
- PHYS 122 - Modern Physics 4 *unit(s)*
- PHYS 130 - Mathematical Methods in Physics 4 *unit(s)*
- PHYS 140 - Computational Methods in Physics 3 *unit(s)*
- PHYS 160 - Thermodynamics and Statistical Physics 3 *unit(s)*
- PHYS 163 - Quantum Mechanics 3 *unit(s)*

### Complete One Course From:

- PHYS 120B - Modern and Solid State Physics Lab 3 *unit(s)*
- PHYS 120C - Advanced Physics Lab: Optics and Lasers 3 *unit(s)*

### Astronomy and Physics Electives (6 units)

Additional six units in upper division Physics or Astrophysics from:

- ASTR 117A - Astrophysics I 3 *unit(s)*
- ASTR 117B - Astrophysics II 3 *unit(s)*
- ASTR 155 - Topics in Modern Astrophysics 3 *unit(s)*
- PHYS 105B - Advanced Mechanics II 3 *unit(s)*
- PHYS 158 - Modern Optics 3 *unit(s)*
- PHYS 175A - Solid State Physics 3 *unit(s)*
- PHYS 120B - Modern and Solid State Physics Lab 3 *unit(s)*
- PHYS 120C - Advanced Physics Lab: Optics and Lasers 3 *unit(s)*
- PHYS 168 - Lasers 3 *unit(s)*

### University Electives (3 units)

### Total Units Required (120 units)



## Physics, Preparation for Teaching, BA

This major is designed for students interested in teaching science in high school or middle school. Students enrolled in this program will earn units towards their single subject credential as an undergraduate. The following course work satisfies San José State University's requirements for a BA in Physics, offered by the Department of Physics and Astronomy. A minimum grade point average (GPA) criterion may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (see Teaching) for information on application and admission to credential programs.

- Program Learning Outcomes

### Summary of Degree Units

University Graduation Requirements	44
Major Preparation	18
Major Requirements	53
University Electives	5
<b>Total</b>	<b>120</b>

### University Requirements for Graduation

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Undergraduate Graduation Requirements section of the Policies and Procedures.

### Program Roadmaps

The 4-Year Roadmap is available online. Roadmaps should be used in consultation with the catalog and your advisor to identify additional requirements for completing the major (for example, course grade minimums). Associate Degrees (ADT) Pathways are also available online.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (44 units)

### Core Lower Division General Education (24 units)

Of the 39 units required by the university, 15 units may be satisfied by coursework outlined below. Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

Of the 9 units required by the university, 0 units may be satisfied by coursework outlined below. Consult with major advisor for details.

## American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B, HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

### Complete One Sequence From:

## African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (M7)

## Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (M7)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (M12)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (M11)

## Chicana and Chicano Studies (6 units)

- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (M7)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement (3 units)

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Preparation (18 units)

- CHEM 1A - General Chemistry 5 *unit(s)* (B1+B3)
- MATH 30 - Calculus I 3 *unit(s)* (B4)
- MATH 31 - Calculus II 4 *unit(s)* (B4)
- MATH 32 - Calculus III 3 *unit(s)* (B4)

- MATH 33A - Ordinary Differential Equations for SCI & ENGR 3 *unit(s)*

## Major Requirements (53 units)

### Core Courses (53 units)

- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*
- EDSC 162 - Language/Literacy Development of L2 Learners 3 *unit(s)*
- EDSC 173 - Psychological Foundations of Secondary Teacher Education 3 *unit(s)*
- PHYS 20 - Invitation to Physics and Astronomy 1 *unit(s)*
- PHYS 40 - Introduction to Computational Physics 3 *unit(s)*
- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 *unit(s)* (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 *unit(s)* (B1+B3)
- PHYS 105A - Advanced Mechanics I 4 *unit(s)*
- PHYS 110A - Electricity and Magnetism I 3 *unit(s)*
- PHYS 120A - Electronics, Data Acquisition & Analysis 3 *unit(s)*
- PHYS 122 - Modern Physics 4 *unit(s)*
- PHYS 130 - Mathematical Methods in Physics 4 *unit(s)*
- SCED 273 - Secondary School Science 3 *unit(s)*
- SCED 175 - Classroom Experiences in Science Teaching 1 *unit(s)*
- Additional units of upper division physics 6 *unit(s)*

### University Electives (5 units)

### Total Units Required (120 units)

## Master

### Physics, Computational Physics Concentration, MS

The goal of this concentration, offered by the Department of Physics and Astronomy, is to give the candidate a thorough grounding in physics, computer programming, and numerical methods. All candidates are required to complete a thesis including the defense (Plan A) or take an oral comprehensive examination as culminating experience (Plan B).

The admission requirements, advancement to candidacy, and graduation requirements are detailed on the Physics, MS degree program section of the catalog.

### Master's Requirements (30 units)

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

## Core Courses (18 units)

- PHYS 100W - Methods of research and communication in physics 3 unit(s) (GWAR)  
or PHYS 220E - Graduate Optics Lab 3 unit(s) (GWAR)
- PHYS 205 - Advanced Dynamics 3 unit(s)
- PHYS 210 - Electromagnetic Theory 3 unit(s)
- PHYS 230 - Methods in Mathematical Physics 3 unit(s)
- PHYS 240 - Computational Physics 3 unit(s)
- PHYS 263A - Quantum Theory 3 unit(s)

## Mathematics Courses (6 units)

Complete one course:

- MATH 143C - Numerical Analysis and Scientific Computing 3 unit(s)
- MATH 143M - Numerical Analysis and Scientific Computing 3 unit(s)

Complete one course:

*Select one course in consultation with Graduate Advisor.*

- MATH 243B - Advanced Topics in Numerical Analysis 3 unit(s)
- MATH 243M - Numerical Linear Algebra 3 unit(s)
- 200-level mathematics or physics course 3 unit(s)

## Culminating Experience (6 units)

Complete one option (Plan A or Plan B):

### Plan A (Thesis)

- PHYS 297 - Directed Research 1-5 unit(s) (4 units required)
- PHYS 299 - Master's Thesis 1-4 unit(s) (2 units required)

### Plan B (Project)

- PHYS 298 - Graduate Research Report 1-4 unit(s) (1 unit required)
- Additional 3 units of PHYS 297 or 200-level mathematics or physics elective course selected in consultation with graduate advisor
- PSYC 298 - Special Problems 1-6 unit(s) (2 units required)

## Total Units Required (30 units)

# Physics, Modern Optics Concentration, MS

MS Physics, concentration in Modern Optics is offered by the Department of Physics and Astronomy. The students in this concentration receive instruction in fundamental areas of physics and gain experience and knowledge in a wide range of subjects related to Modern Optics. All candidates are required to complete a thesis including the defense (Plan A) or take an oral comprehensive examination as culminating experience (Plan B).

The admission requirements, advancement to candidacy, and graduation requirements are detailed on the Physics, MS degree program section of the catalog.

## Master's Requirements (30 units)

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### Core Courses (18 units)

- PHYS 220E - Graduate Optics Lab 3 *unit(s)* (GWAR)
- PHYS 205 - Advanced Dynamics 3 *unit(s)*
- PHYS 210 - Electromagnetic Theory 3 *unit(s)*
- PHYS 230 - Methods in Mathematical Physics 3 *unit(s)*
- PHYS 258 - Optics 3 *unit(s)*
- PHYS 263A - Quantum Theory 3 *unit(s)*

### Electives (6 units)

#### Complete one course (3 units):

- PHYS 208 - Introduction to Electro-Optics 3 *unit(s)*
- PHYS 268 - Laser Spectroscopy 3 *unit(s)*

#### Complete one additional course (3 units):

- PHYS 120C - Advanced Physics Lab: Optics and Lasers 3 *unit(s)*
- PHYS 158 - Modern Optics 3 *unit(s)*
- PHYS 168 - Lasers 3 *unit(s)*
- PHYS 208 - Introduction to Electro-Optics 3 *unit(s)*
- PHYS 268 - Laser Spectroscopy 3 *unit(s)*

### Culminating Experience (6 units)

Complete one option (Plan A or Plan B):

#### Plan A (Thesis)

- PHYS 297 - Directed Research 1-5 *unit(s)* (4 *units* required)
- PHYS 299 - Master's Thesis 1-4 *unit(s)* (2 *units* required)

## Plan B (Project)

- PHYS 297 - Directed Research 1-5 unit(s) (1 unit required)
- Additional 3 units of PHYS 297 or additional course from PHYS 120C, 158, 168, 208, or 268
- PHYS 298 - Graduate Research Report 1-4 unit(s)

## Total Units Required (30 units)

## Physics, MS

- Admissions Requirements
- Advancement to Candidacy
- Requirements for Graduation
- Master's Requirements (30 units)
- Program Learning Outcomes

At the core of all science, physics helps us understand chemical reactions, protein folding, the Earth's interior, and the life cycle of stars. Physicists invented the semiconductor, the laser, and the electron microscope. They play key roles in the design and operation of spacecraft and in the development of electronic and optical instrumentation. The Department of Physics and Astronomy offers a Master of Science in Physics and two concentrations: Computational Physics and Modern Optics. Our faculty are experts in lasers and optics, computational physics, condensed matter, astrophysics, and physics education research. The department receives on average approximately \$1.8 million annually in external funding for sponsored research.

**Department of Physics and Astronomy Website:** [physics.sjsu.edu](http://physics.sjsu.edu).

## Admissions Requirements

Candidates must meet all the university admissions requirements. Students can be admitted in either *classified* or *conditionally classified* standing:

- **Classified Standing:** Students admitted with classified standing will have an undergraduate degree in Physics or other STEM discipline with classes completed in upper division Mechanics, Electricity and Magnetism and Quantum Mechanics.
- **Conditional Classified Standing:** Conditional acceptance means that the candidate must fulfill specific requirements in order to be eligible to apply for advancement to candidacy. These conditions will be stipulated as part of the acceptance agreement between the faculty adviser and the applicant. Failure to fulfill these requirements will result in disqualification from the program.

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage.

## Advancement to Candidacy

Each semester, students should consult with their graduate advisor to develop a schedule of courses. Students admitted as conditionally classified must satisfy the requirements listed in their acceptance agreement before advancing to candidacy. Students who have achieved classified standing in the master's degree curriculum must next advance to candidacy for the degree. A student may advance to candidacy after:

1. Completing a minimum of 9 units of letter-graded work as a graduate student in 100- or 200-level courses acceptable to the department as well as fulfilling the other university requirements for advancement to candidacy.
2. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), which is satisfied in this degree by the completion of PHYS 100W or PHYS 220E with a grade of "B" or better.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### Program Graduation Requirements

Students must complete program requirements, which consists of 30 semester units of approved work. The student consults with their advisor to select a thesis or project topic.

### Culminating Experience

#### Plan A (Thesis)

Thesis: The thesis must meet university requirements as stipulated in the Graduate Policies and Procedures section of this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's research committee chair with the assistance of the research committee. The MS thesis document must be approved by the student's research committee before submission. Typically, the research committee will provide the candidate feedback during the Thesis Defense and may request changes to the thesis before final approval. Oral Thesis Defense: All MS candidates are required to present a public seminar based on their research project.

#### Plan B (Project)

Written Project: The written project must be a manuscript describing the student's research project, written following a professional journal's format for submission. It will be written under the guidance of the candidate's research committee chair with the assistance of their research committee. The manuscript must be approved by the student's research committee. Typically, the committee will provide the candidate feedback during the Project Defense and may request changes to the manuscript before final approval.

### Masters Requirements (30 units)

### Graduation Writing Assessment Requirement

Students must pass the Graduation Writing Assessment Requirement (GWAR).

### Core Courses (18 units)

- PHYS 100W - Methods of research and communication in physics 3 *unit(s)* (GWAR)  
or PHYS 220E - Graduate Optics Lab 3 *unit(s)* (GWAR)
- PHYS 205 - Advanced Dynamics 3 *unit(s)*
- PHYS 210 - Electromagnetic Theory 3 *unit(s)*
- PHYS 230 - Methods in Mathematical Physics 3 *unit(s)*
- PHYS 258 - Optics 3 *unit(s)*
- PHYS 263A - Quantum Theory 3 *unit(s)*

## Electives (6 units)

- 3 *units* letter-graded 200-level physics
- 3 *units* 100- or 200-level physics, mathematics, science or engineering courses approved by the graduate advisor

## Culminating Experience (6 units)

Complete one option (Plan A or Plan B):

### Plan A (Thesis)

- PHYS 297 - Directed Research 1-5 *unit(s)* (4 *units* required)
- PHYS 299 - Master's Thesis 1-4 *unit(s)* (2 *units* required)

### Plan B (Project)

- PHYS 297 - Directed Research 1-5 *unit(s)* (1 *unit* required)
- Additional 3 *units* of PHYS 297 or elective selected in consultation with graduate advisor
- PHYS 298 - Graduate Research Report 1-4 *unit(s)* (2 *units* required)

## Total Units Required (30 units)

## Minor

### Astronomy Minor

The Astronomy minor offered by the Department of Physics and Astronomy requires completion of the physics and astronomy courses taken at San José State University with a grade of "C" (2.0 GPA) or better.

#### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

### Minor Requirements (21 units)

- PHYS 50 - General Physics/Mechanics 4 *unit(s)* (B1+B3)



- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 unit(s) (B1+B3) (Or take PHYS 50 series equivalents)
- ASTR 117A - Astrophysics I 3 unit(s)
- ASTR 117B - Astrophysics II 3 unit(s)
- ASTR 155 - Topics in Modern Astrophysics 3 unit(s)

## Total Units Required (21 units)

## Physics Minor

A physics minor to accompany a major in some other field is offered. A physics minor is 18 units of physics courses taken at San José State University with a "C" (2.0) average or better.

### University Graduation Requirements

To be awarded a minor, at least 12 units of coursework must be completely distinct and separate from the coursework in the major (University Policy S16-4).

## Minor Requirements (18 units)

- PHYS 50 - General Physics/Mechanics 4 unit(s) (B1+B3)
- PHYS 51 - General Physics/Electricity and Magnetism 4 unit(s) (B1+B3)
- PHYS 52 - General Physics/Waves, Light, Heat 4 unit(s) (B1+B3)
- Six units of upper division physics approved by Physics advisor 6 unit(s)

## Total Units Required (18 units)

### *ASTR 10 - Descriptive Astronomy*

3 unit(s)

A generally non-mathematical examination of principles, facts and logic of astronomy, emphasizing arrangement, origin and evolution of the solar system.

*Satisfies B1: Physical Science*

**Grading:** Graded

### *ASTR 92 - International Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

### *ASTR 101 - Modern Astronomy*

3 unit(s)

A principally non-mathematical discussion of current scientific observational and theoretical understanding of the origin and evolution of stars, galaxies and the cosmos.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*ASTR 102 - Astronomy Lab*

*1 unit(s)*

Experimental examination of specific astronomical topics: coordinate systems, constellations, etc. Astronomical applications of general physical principles: gravitational motion, stellar spectra, etc.

*Misc/Lab: Lab 3 hours.*

*Satisfies B3: Laboratory Science*

**Prerequisite(s):** Completion of or concurrent enrollment in a college-level astronomy course.

**Grading:** Graded

*ASTR 117A - Astrophysics I*

*3 unit(s)*

Physical and observational foundations of astronomy and astrophysics. Celestial coordinates, telescopes, astronomical observations, orbital motion, physics and chemistry of planetary systems; introduction to stellar physics. Computer models and simulations may be used.

**Prerequisite(s):** PHYS 52 and MATH 32 or MATH 32X with a "C-" or better.

**Grading:** Graded

*ASTR 117B - Astrophysics II*

*3 unit(s)*

Physics of stellar structure and evolution; observed properties of stars; physics and chemistry of the interstellar medium; galaxies and cosmology.

**Prerequisite(s):** PHYS 52 and MATH 31 or MATH 31X with a "C-" or better. College of Science or Engineering Majors only.

**Grading:** Graded

*ASTR 155 - Topics in Modern Astrophysics*

*3 unit(s)*

Topics vary each semester and may include observational and/or computational techniques. Course is repeatable for a total of 9 units.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** ASTR 117A with a C- or better

**Grading:** Graded

*ASTR 192 - Int'l Program Studies*

1-12 unit(s)

**Grading:** Mixed Grading

*PHYS 1 - Elementary Physics*

3 unit(s)

Mechanics, energy, electricity, magnetism, optics, atomic and nuclear physics, properties of matter; emphasizes practical applications of physics principles to contemporary problems.

*Satisfies B1: Physical Science*

**Prerequisite(s):** The following Declared Majors are not allowed to enroll in this course: Engineering, Chemistry, Geology, Meteorology, Physics, Earth Science.

**Grading:** Graded

*PHYS 1L - Elementary Physics Lab*

1 unit(s)

Selected experiments on topics covered in Phys 1.

*Misc/Lab: Lab 3 hours.*

*Satisfies B3: Laboratory Science*

**Corequisite(s):** PHYS 1. The following Declared Majors are not allowed to enroll in this course: Engineering, Chemistry, Geology, Meteorology, Physics, Earth Science.

**Grading:** Graded

*PHYS 2A - Fundamentals of Physics*

4 unit(s)

First semester of a two-semester sequence that is non-calculus based and covers the topics of mechanics, heat, and sound.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Prerequisite(s):** Algebra.

**Grading:** Graded

**Note(s):** Year course.

*PHYS 2AW - Fundamentals of Physics*

1 unit(s)

A discussion course for students concurrently registered in Physics 002A covering problem solving methods as related to topics normally covered in Physics 002A.

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** PHYS 2A

**Grading:** Credit/No Credit

*PHYS 2B - Fundamentals of Physics*

4 unit(s)

Electricity and magnetism, optics and atomic structure.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Prerequisite(s):** PHYS 2A (with grade of "C-" or better).

**Grading:** Graded

*PHYS 20 - Invitation to Physics and Astronomy*

1 unit(s)

Introduction to the physics department, its faculty, and basic skills necessary for success as a physics major. Topics include relativity and quantum theory for beginners, careers in physics and astronomy, career pathways of BA/BS physics recipients, the role of research in undergraduate STEM education, a historical perspective on the field of physics, and physics/astronomy in the news.

**Grading:** Graded

*PHYS 23 - Animation Physics*

3 unit(s)

This course presents principles and concepts of physics relevant to animation and special effects. Students will demonstrate mastery of this scientific knowledge in the critical analysis of films, shows, video games, etc., and in creating their own animated shorts.

*Satisfies B1: Physical Science*

**Grading:** Graded

*PHYS 40 - Introduction to Computational Physics*

3 unit(s)

An introduction to programming for physics majors who have no previous programming experience. Problem solving, data visualization and analysis using computational methods.

*Misc/Lab: Lecture 2 hours/Lab 3 hours.*

**Prerequisite(s):** PHYS 50

**Grading:** Graded

*PHYS 49 - Introduction to Physics*

3 unit(s)

A preparatory course in physics for science and engineering majors, emphasizing significant figures, unit

conversions, vectors, quantitative reasoning. Introduction to Newton's Laws and conservation laws. The relevance of physics to science and engineering careers.

**Prerequisite(s):** MATH 19 or pre-calc placement test

**Grading:** Graded

*PHYS 50 - General Physics/Mechanics*

*4 unit(s)*

A calculus-based treatment of particle kinematics and dynamics, work, energy, momentum, rotational motion, equilibrium, and simple harmonic motion.

*Lecture 3 hours/lab 3 hours*

*Satisfies B1 + B3: Physical + Lab Science (Intensive Science Package)*

**Prerequisite(s):** Writing Enrollment Category I / II / III or GE Area A2 completed (grade of C- or better) or ENGL 1AF (grade of CR); AND, 3 or better on AP Calculus Test, or C or better in MATH 30/30PL /30PL /30X. Allowed Declared Majors: College of Science or Engineering.

**Grading:** Graded

*PHYS 50W - General Physics/Mechanics Workshop*

*1 unit(s)*

A discussion course for students concurrently registered in PHYS 50 General Physics/Mechanics covering problem solving methods as related to topics normally covered in PHYS 50.

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** PHYS 50

**Grading:** Credit/No Credit

*PHYS 51 - General Physics/Electricity and Magnetism*

*4 unit(s)*

A calculus-based introduction to electricity and magnetism, covering electric charges, electric and magnetic fields, dc and ac circuits, and electromagnetic waves. Intensive Science Package GE: B1 and B3.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science*

**Prerequisite(s):** PHYS 50, MATH 31, both with grades of "C" or better. College of Science or Engineering Majors Only.

**Grading:** Graded

*PHYS 52 - General Physics/Waves, Light, Heat*

*4 unit(s)*

Mechanical Waves, Light, Spectra, Quantization of electromagnetic radiation; Geometric and Physical Optics; Temperature, Heat and Thermodynamics. Intensive Science Package GE Area: B1 and B3.

*Lecture 3 hours/lab 3 hours.*

*Satisfies B1 + B3: Physical + Lab Science.*

**Prerequisite(s):** PHYS 51, and MATH 31 or MATH 31X; both with grade of "C" or better. Allowed Declared Majors College of Science or Engineering majors only.

**Grading:** Graded

*PHYS 92 - Int'l Program Studies*

*1-6 unit(s)*

**Grading:** Mixed Grading

*PHYS 100W - Methods of research and communication in physics*

*3 unit(s)*

Develop communication skills for physics, including proposals, posters, research reports and oral presentations. Research strategies and methodologies for effective communication to general and specialized audiences. GE Area: Z.

*Satisfies SJSU Studies Z: Written Communication II.*

**Prerequisite(s):** A3 or equivalent second semester composition course (with a grade of C- or better); completion of core GE; satisfaction of Writing Skills Test or completion of ENGL 100A / LLD 100A with C or better; and upper division standing. Or Graduate or Postbaccalaureate level.

**Grading:** Graded

**Note(s):** Must be passed with C or better to satisfy the CSU Graduation Writing Assessment Requirement (GWAR).

*PHYS 105A - Advanced Mechanics I*

*4 unit(s)*

Dynamics of particles, Newtons laws, Lagranges and Hamiltons equations, conservation laws, symmetry and the laws of physics, oscillations, central-force motion, and non-inertial reference frames.

**Prerequisite(s):** PHYS 52, MATH 33A, each with grade of "C-" or better.

**Grading:** Graded

**Note(s):** Year course.

*PHYS 105B - Advanced Mechanics II*

*3 unit(s)*

Dynamics of systems of particles: collisions, rigid body rotations, non-inertial frames, coupled oscillations, waves. This course is strongly recommended for students who are considering graduate study in physics.

**Prerequisite(s):** PHYS 105A with grade "C-" or better.

**Grading:** Graded

*PHYS 107 - Waves and Oscillations*

*3 unit(s)*

Oscillatory phenomena and their connection to waves. Review of simple harmonic motion and extension to damped,

driven, and coupled oscillators. Applications to waves on strings, and basic concepts of electromagnetic and sound waves. Connections to the beginnings of quantum theory are developed.

**Prerequisite(s):** PHYS 52 with C- or better

**Grading:** Graded

*PHYS 110A - Electricity and Magnetism I*

3 unit(s)

Theories of electrostatics, magnetostatics, electrodynamics and electromagnetic waves.

**Prerequisite(s):** PHYS 130, MATH 33A, each with "C-" or better.

**Grading:** Graded

**Note(s):** Year course.

*PHYS 110B - Electricity and Magnetism II*

3 unit(s)

Theories of electrostatics, magnetostatics, electrodynamics and electromagnetic waves.

**Prerequisite(s):** PHYS 110A

**Grading:** Graded

*PHYS 120A - Electronics, Data Acquisition & Analysis*

3 unit(s)

The characteristics of basic analog and digital electronic circuits used in a scientific laboratory. Topics include transistors, operational amplifiers, digital electronic circuits, and computer data acquisition.

*Misc/Lab: Seminar 2 hours/lab 3 hours.*

**Prerequisite(s):** PHYS 51 with "C" or better. Physics Majors Only

**Grading:** Graded

*PHYS 120B - Modern and Solid State Physics Lab*

3 unit(s)

Experimental methods of modern physics and solid state physics, including semiconductors, superconducting quantum interference, Faraday effect, magnetic resonance and electron spin resonance.

*Misc/Lab: Seminar 1 hour/lab 6 hours.*

**Prerequisite(s):** PHYS 122 and PHYS 120A both with C- or better. Physics Majors only.

**Grading:** Graded

*PHYS 120C - Advanced Physics Lab: Optics and Lasers*

3 unit(s)

Design of optical systems involving lasers and other common optical components. Use of optical systems to explore interference, holography, and other optical phenomena.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** PHYS 120A and PHYS 158 all with grade of "C-" or better.

**Grading:** Graded

*PHYS 121S - Radiation Safety*

*1-2 unit(s)*

Health hazards involved in working with radioactive substances. Physical nature of hazards, biological effects, standards of permissible exposures, safety precautions and protection techniques. Two units meet State of California recommendations.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*PHYS 122 - Modern Physics*

*4 unit(s)*

Survey of modern physics for science majors, covering special relativity, pre-quantum theory, basic quantum mechanics, atomic and molecular physics, solid state physics, nuclear and particle physics, and cosmology. Historical foundations of these topics will also be presented.

**Prerequisite(s):** CHEM 1A, MATH 32, and PHYS 52 all with a C- or better.

**Grading:** Graded

*PHYS 126 - Introduction to Nuclear Science*

*3 unit(s)*

Properties of the atomic nucleus. Applications of nuclear science in biology, chemistry, engineering, geology and physics.

**Prerequisite(s):** Lower division calculus, chemistry and physics.

**Grading:** Graded

*PHYS 127 - Nuclear Science Lab*

*3 unit(s)*

Basic techniques and procedures used in nuclear science. Nuclear decay, nuclear reactions, radiation detection and measurements, nuclear analytical methods and tracer techniques.

*Misc/Lab: Lecture 1 hour/lab 6 hours.*

**Prerequisite(s):** NUCS 121S, CHEM 100W and CHEM 126 (with grades of "C" or better; "C-" not accepted); or instructor consent.

**Grading:** ABC-/NC Grading

*PHYS 130 - Mathematical Methods in Physics*

*4 unit(s)*

Mathematical methodologies commonly used in physics, including linear algebra, vector calculus, partial differential equations and complex variables, and their applications to classical mechanics, electricity and magnetism, and quantum mechanics.



**Prerequisite(s):** MATH 32 or MATH 32X, and PHYS 52.  
**Grading:** Graded

*PHYS 140 - Computational Methods in Physics*

3 unit(s)

An introduction to the programming of algorithms and numerical techniques pertinent to physical systems.

*Misc/Lab: Seminar 2 hours/lab 3 hours.*

**Prerequisite(s):** PHYS 40 or previous programming experience; PHYS 52 with a C- or better. Physics Majors Only.  
**Grading:** Graded

*PHYS 155 - Topics in Physics and Astronomy*

3-9 unit(s)

Trending topics of physics and astronomy research and areas of special interest. Content varies by semester.

*Course repeatable when topic changes for a total of 9 units.*

**Prerequisite(s):** PHYS 52, and MATH 32 or MATH 32X, both with a C- or better. Or Instructor Consent.  
**Grading:** Graded

*PHYS 158 - Modern Optics*

3 unit(s)

Thin and thick lens systems. Double and multiple beam interference, holography, Fraunhofer and Fresnel diffraction, Fourier optics, spatial filtering, polarization and birefringence.

**Prerequisite(s):** PHYS 52 with a C- or better; MATH 32 or MATH 32X.  
**Grading:** Graded

*PHYS 160 - Thermodynamics and Statistical Physics*

3 unit(s)

The laws of thermodynamics and kinetic theory with introduction to statistical mechanics.

**Prerequisite(s):** CHEM 1A and PHYS 52 both with a C- or better; MATH 32 or MATH 32X.  
**Grading:** Graded

*PHYS 163 - Quantum Mechanics*

3 unit(s)

General principles of quantum theories. Wave functions, operator algebra and approximation methods. Applications to atomic structure and solid state physics.

**Prerequisite(s):** PHYS 122, MATH 33A, PHYS 130, all with a grade of "C-" or better.  
**Grading:** Graded

*PHYS 166 - Physics of Music*

3 unit(s)

Physical, mathematical and perceptual foundations of music. Includes musical instruments, hearing, harmony, room acoustics, sound analysis, synthesis and reproduction.

*Satisfies SJSU Studies R: Earth & Environment*

**Prerequisite(s):** Passage of the Writing Skills Test (WST) or ENGL 100A / LLD 100A with a C or better (C- not accepted), completion of Core General Education and upper division standing are prerequisites to all SJSU studies courses. Completion of, or co-registration in, 100W is strongly recommended.

**Grading:** Graded

**Note(s):** All of SJSU Studies courses require completion of the WST and upper division standing.

*PHYS 168 - Lasers*

3 unit(s)

Properties of lasers and Gaussian light beams. Principles of laser operation and design. Application of lasers.

**Prerequisite(s):** PHYS 122 and PHYS 158 with a C- or better.

**Corequisite(s):** PHYS 110B.

**Grading:** Graded

*PHYS 175A - Solid State Physics*

3 unit(s)

A detailed treatment of the physics of solids using quantum mechanics, crystallography, electromagnetism, and metallurgy.

**Prerequisite(s):** PHYS 122 with grade of "C-" or better.

**Grading:** Graded

*PHYS 180 - Individual Studies*

1-4 unit(s)

Advanced work in special fields.

**Prerequisite(s):** Physics major or minor. Not available to Open University Students.

**Grading:** Credit/No Credit

**Note(s):** Maximum 4 units of 180/184 may be applied toward graduation.

*PHYS 184 - Directed Reading*

1-3 unit(s)

Assigned readings of selected books, journals and special papers to fill gaps in training or for contact with new fields. Weekly reports and conferences.

**Prerequisite(s):** Not available to Open University Students.

**Grading:** Credit/No Credit

**Note(s):** Maximum 4 units of 180/184 may be applied toward graduation.

*PHYS 192 - Int'l Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*PHYS 196B - Physics Education: Theory and Practice*

3 unit(s)

Instructional Student Assistants and Teaching Associates integrate educational theory, pedagogy, content, and practice by focusing on practical concerns and associated theoretical models. Weekly readings, in-class discussions, out-of-class data collection, reflections, projects, and presentations based on classroom teaching experience.

**Prerequisite(s):** PHYS 50, PHYS 2A, or equivalent

**Grading:** Graded

*PHYS 205 - Advanced Dynamics*

3 unit(s)

Generalized methods and selected topics in classical mechanics.

**Prerequisite(s):** PHYS 105A, PHYS 130, and MATH 33A, or equivalents; or instructor consent.

**Grading:** Graded

*PHYS 208 - Introduction to Electro-Optics*

3 unit(s)

This course introduces the physical principles of electro-optics including modulators (electro- and acousto-optic), non-linear optics, semiconductor lasers, optical detection and integrated optics with applications.

**Prerequisite(s):** PHYS 158

**Grading:** Graded

*PHYS 210 - Electromagnetic Theory*

3 unit(s)

Topics in electrostatics and magnetostatics; Maxwell equations; solutions of boundary-value problems using methods of images and Green's function; boundary-value problems in magnetostatics; electromagnetic plane waves and wave propagation in a dielectric media; Fresnel Equations.

**Prerequisite(s):** PHYS 230.

**Grading:** Graded

*PHYS 220E - Graduate Optics Lab*

3 unit(s)

Covers the application of Lasers and Optics with emphasis on topics such as Gaussian beams, Fabry-Perot cavities, Laser oscillators including CW and pulsed operation, non-linear optics, frequency stabilization and Fourier Optics. Communication of scientific content through written communication.

*Lecture 2 hour/Lab 3 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** PHYS 120C or PHYS 208 or PHYS 258 or PHYS 268.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*PHYS 230 - Methods in Mathematical Physics*

3 unit(s)

Partial differential equations and special functions: Bessel functions, Legendre polynomials, spherical harmonics; Green's functions; complex variables and contour integrations; matrices and eigenvalue problems; Fourier and Laplace transforms.

**Prerequisite(s):** MATH 33A and PHYS 130, or equivalents; or instructor consent.

**Grading:** Graded

*PHYS 240 - Computational Physics*

3 unit(s)

Numerical techniques and computational methods applied to solving problems from various branches of physics.

**Prerequisite(s):** PHYS 40, PHYS 105A, and PHYS 163, or equivalents; or instructor consent.

**Grading:** Graded

*PHYS 255 - Advanced Physics*

3 unit(s)

Selected topics in physics. Topics vary each semester. Course is repeatable when content changes.

**Prerequisite(s):** Suitable upper division background in physics and mathematics.

**Grading:** Graded

*PHYS 255C - Celestial Mechanics*

3 unit(s)

Basic concepts in celestial mechanics emphasizing orbital mechanics and the calculation of orbital perturbation. Topics covered include dynamical principles, potential theory, planetary equations, the disturbing function, Lagrange's perturbation equations and geopotential perturbations.

**Prerequisite(s):** Senior or graduate standing.

**Grading:** Graded

*PHYS 258 - Optics*

3 unit(s)

Fourier optics, diffraction theory, imaging and image enhancement, holography and information processing.

**Prerequisite(s):** PHYS 158 and MATH 33A.

**Grading:** Graded

*PHYS 260 - Statistical Mechanics*

3 unit(s)

Classical and quantum statistics with applications to properties of matter. Principles of thermodynamics.

**Prerequisite(s):** PHYS 160 and PHYS 163.

**Grading:** Graded

*PHYS 263A - Quantum Theory*

3 unit(s)

Postulates of quantum theory. The Schroedinger equation and its solution for simple physical systems. Heisenberg's matrix formulation of quantum mechanics. Approximation methods: Time dependent and time independent perturbation theory. Variational method.

**Prerequisite(s):** PHYS 163, PHYS 230.

**Grading:** Graded

*PHYS 268 - Laser Spectroscopy*

3 unit(s)

Importance of spectroscopy. Interaction of radiation with matter. Instrumentation for laser spectroscopy. Examples of various techniques, cw and pulsed.

**Prerequisite(s):** PHYS 110B, PHYS 158 or instructor consent.

**Grading:** Graded

*PHYS 275 - Solid State Physics*

3 unit(s)

Properties of crystals; electric, magnetic and thermal properties of solids.

**Prerequisite(s):** PHYS 175A and PHYS 263A or instructor consent.

**Grading:** Graded

*PHYS 277 - Superconductivity and Magnetism in Solids*

3 unit(s)

Study of superconductivity and magnetism in solids. Fundamental and technological importance. Type I and Type II superconductivity. BCS theory. High-T<sub>c</sub> superconductivity. Interplay of superconductivity and magnetism. Origins and characterization of magnetization types.

**Prerequisite(s):** PHYS 175A, PHYS 275 or instructor consent.

**Grading:** Graded

*PHYS 285 - Seminar*

1 unit(s)

Meetings for the presentation and discussion of advanced studies in special fields including work by the faculty, guest investigators and graduate students. Topics will vary each semester.

**Grading:** Credit/No Credit

*PHYS 297 - Directed Research*

1-5 unit(s)

Advanced work in special fields. Only open to currently enrolled graduate students.

*Course may be repeated for credit for up to 5 units.*

**Grading:** Graded

**Note(s):** Not available to Open University students.

*PHYS 298 - Graduate Research Report*

1-4 unit(s)

Graduate Research Report.

*Repeatable for credit.*

**Prerequisite(s):** PHYS 297 and Instructor consent. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*PHYS 299 - Master's Thesis*

1-4 unit(s)

**Prerequisite(s):** Admission to candidacy for the master's degree. Not available to Open University Students.

**Grading:** Mandatory CR/NC/RP

*PHYS 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in Chem 299, Master's Thesis

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Moss Landing Marine Laboratories

**Office:** Moss Landing Marine Laboratories: Marine Science Graduate Program; 8272 Moss Landing Road; Moss Landing, CA 95039

**Telephone:** 831-771-4400

**Email:** info@mml.calstate.edu

**Website:** www.mml.calstate.edu

### Professors

Ivano W. Aiello, Chair  
Jonathan B. Geller

Michael H. Graham  
Scott Hamilton  
James T. Harvey, Director  
Nicholas A. Welschmeyer

#### **Assistant Professors**

Tom Connolly  
Maxime Grand  
Amanda Kahn  
Birgitte McDonald

#### **Adjunct Professors**

Colleen Durkin  
David Ebert  
Valerie J. Loeb  
John S. Oliver  
Iliana Ruiz-Cooley  
G. Jason Smith  
Richard M. Starr  
Diana Steller  
Alison Stimpert

#### **Other Faculty**

Katie Lage, Librarian

## **Overview**

The second oldest marine lab on Monterey Bay, Moss Landing Marine Laboratories, (MLML), established in 1966, has an international reputation for excellence in marine science research and education. MLML administers the interdisciplinary master's of science degree in marine science for seven California State University (CSU) campuses: East Bay, Fresno, Monterey Bay, Sacramento, San Francisco, San José and Stanislaus. MLML's hands-on, field-oriented approach places students, faculty, research and staff where discoveries are made: at the frontiers of marine science worldwide. The wealth of nearby marine resources, excellent marine facilities and operations, renowned faculty and research-based curriculum combine to make the MLML program one of the best graduate programs of its kind in the United States. MLML provides students with a cutting-edge education that prepares them for careers in science, education and outreach, conservation, policy and management, and for doctoral studies.

## **Master**

### **Marine Science, MS**

Moss Landing Marine Laboratories (MLML) is the second oldest marine lab in Monterey Bay. Established in 1966, it has an international reputation for excellence in marine science research and education. MLML administers the interdisciplinary Master's of Science in marine science for seven California State University (CSU) campuses: East Bay, Fresno, Monterey Bay, Sacramento, San Francisco, San José, and Stanislaus. The hands-on, field-oriented MLML approach places students, faculty, research, and staff where discoveries are made: at the frontiers of marine science worldwide. The wealth of nearby marine resources, excellent marine facilities and operations, renowned faculty and research-based curriculum combine to make the MLML program one of the best graduate programs of its

kind in the United States. MLML provides students with a cutting-edge education that prepares them for careers in science, education and outreach, conservation, policy and management, and for doctoral studies. See the program website at: [www.mlml.calstate.edu/](http://www.mlml.calstate.edu/).

For more information contact the graduate program coordinator at MLML at [gradprog@mlml.calstate.edu](mailto:gradprog@mlml.calstate.edu).

## Admissions Requirements

Applicants must submit a complete graduate application by applying through the CSU Cal State Apply system at [calstate.edu/apply](http://calstate.edu/apply). All admitted applicants must satisfy all SJSU catalog admission requirements. The university-level graduate application is separate from the program application. Apply separately to the university to obtain approval for university-level admission and to the department to obtain admission into the program. Program application and admission requirements are available at [gradprog.mlml.calstate.edu](http://gradprog.mlml.calstate.edu).

Before applying to MLML, prospective students must select an MLML faculty advisor(s) before submitting application materials and schedule a visit to MLML. Discussing your application with a potential faculty advisor and visiting MLML will 1) provide you with a better understanding of what our program has to offer; 2) help you determine if the selected faculty advisor is the right academic mentor for you; 3) enable you to speak with the potential advisor about the application process; 4) allow you to speak with current students; and 5) strengthen your application and improve your chances of acceptance. More information can be found at [www.mlml.calstate.edu/gradprog/how-to-apply/](http://www.mlml.calstate.edu/gradprog/how-to-apply/).

After completing the online program application by February 1, applicants must submit the following supplemental application materials to MLML-emailed as a single PDF attachment to the MLML Graduate Program Coordinator-by February 15:

- Statement of Purpose - detailing (at a minimum) 1) why you want to study marine science, 2) why you want to attend MLML, 3) your background in marine science, 4) your specific research interests, and 5) what long-term goals you ultimately intend to pursue by attending MLML;
- CV/Resume - summarizing relevant academic and professional experience, including 1) academic background (degrees earned, GPA, relevant coursework), 2) research experience, and 3) relevant employment history, volunteer experience, and/or memberships;
- Unofficial Transcripts - from all post-secondary institutions attended; and
- Unofficial GRE scores - MLML does not require the GRE, but it is strongly recommended. Submit your unofficial GRE scores to MLML by either downloading your score report from the ETS website, or scanning the score report mailed to you by ETS, and including it in the PDF you email to the MLML Graduate Program Coordinator.

Please see SJSU's minimum score requirements listed on the Graduate Program Test Requirement webpage.

Applicants must also request to have three letters of recommendation sent to the program from people familiar with their academic and/or professional background. Letters of recommendation must be emailed directly from your recommenders as a .pdf attachment to the MLML Graduate Program Coordinator at [gradprog@mlml.calstate.edu](mailto:gradprog@mlml.calstate.edu) by February 15.

These application instructions can also be found at: [www.mlml.calstate.edu/gradprog/step-by-step-application-instructions](http://www.mlml.calstate.edu/gradprog/step-by-step-application-instructions)

Applicants may be admitted either as conditional or classified. Conditionally admitted applicants will have some condition(s), such as completion of additional coursework, placed upon their admission into the MLML program; classified students are admitted into the program without any such condition(s).

Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirement webpage at SJSU GAPE.



# Requirements for Advancement to Candidacy

SJSU university requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section.

Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Program requirements for Advancing to Candidacy are as follows:

- Completed the majority of coursework with the exception of the Culminating Experience course MS 299 - Master's Thesis
- Acquired thesis proposal approval from the entire thesis committee, fulfilling the Graduation Writing Assessment Requirement (GWAR)
- Acquired research permitting approval (if applicable)

CSU policy requires that English competency shall be a requirement of classified graduate students as a condition necessary for advancement to candidacy for the award of a master's degree. MLML students satisfy this requirement by successfully completing a Thesis Proposal before they advance to candidacy. The student's thesis committee determines the successful completion of this requirement.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Marine Science Graduation Requirements

Graduate students shall successfully complete 30 units of course work with a grade of "B" or better in each course, a thesis project, and an oral research defense to qualify for the M.S. degree in Marine Science at Moss Landing Marine Laboratories. MLML program requirements are the same regardless of the student's home campus affiliation; however, admission, graduation and department requirements may vary from campus to campus.

Degree requirements for the M.S. degree in Marine Science are:

- MS 104 - Quantitative Marine Science with a grade of "B" or better, or transfer in with the equivalent mathematical background. MS 104 course cannot be counted toward the 30-unit degree requirement.
- Three of the following five Core Courses: MS 103 - Marine Ecology, MS 141 - Geological Oceanography, MS 142 - Physical Oceanography, MS 143 - Chemical Oceanography, and MS 144 - Biological Oceanography. (Courses from accredited institutions may be transferred with approval from MLML faculty). A minimum of fifteen graduate units (200 level) Advanced Coursework including MS 285 - Graduate Seminar in Marine Science (2 unit minimum and 4 unit maximum), MS 298 - Research in the Marine Science (2 unit maximum), and MS 299 - Master's Thesis (Culminating Experience Plan A) (4 units).
- Fulfillment of Classification, Graduation Writing Assessment Requirement, and Advancement to Candidacy.
- A thesis approved by the student's thesis committee. The thesis must conform to the rules set forth by the home campus graduate office and meet the academic standards of the MLML graduate program.

- An oral thesis defense in the form of a seminar open to the general public. The student's thesis committee must be present, may request further oral questioning after the seminar, and will evaluate the success of the presentation.

All students shall maintain continuous enrollment in the MLML graduate program until all degree requirements are met. All students shall complete core courses by their third semester to qualify for Classified standing. If a student receives lower than a "B" in a core course, the student may either retake this course or take another core course to fulfill the Classification requirement. If a student receives lower than a "B" in a non-core class, the student may either retake the course or take another course to use towards the 30-unit requirement. Students may enroll in MS 298 - Research in the Marine Science, while they are conducting their research. Students are eligible to use 2-units of MS 298 toward their Advanced Coursework requirement. Students are encouraged to complete their degree requirements within three years.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

## Culminating Experience

### Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee, and must meet the academic standards of the MLML program. The candidate for the MS in Marine Science at MLML must also successfully pass a final oral defense of the thesis, in the form of a seminar open to the general public, with the thesis committee evaluating the success of the presentation.

## Masters Preparation

- MS 104 - Quantitative Marine Science *4 unit(s) (Must be passed with a "B" or better, or transfer in with equivalent mathematical background)*

## Master's Requirements (30 units)

### Core (12 units)

Complete three course from:

- MS 103 - Marine Ecology *4 unit(s) (GWAR)*
- MS 141 - Geological Oceanography *4 unit(s) (GWAR)*
- MS 142 - Physical Oceanography *4 unit(s) (GWAR)*
- MS 143 - Chemical Oceanography *4 unit(s) (GWAR)*
- MS 144 - Biological Oceanography *4 unit(s) (GWAR)*

## Advanced Coursework (14 units)

Complete a minimum of fourteen graduate units (200 level), selected with advisor 2019s approval

- MS 285 - Graduate Seminar in Marine Science *2 unit(s) (Variable topic seminar may be taken up to two times)*

- MS 298 - Research in the Marine Science 1-4 unit(s) (4 units required)

## Culminating Experience (4 units)

### Plan A (Thesis)

- MS 299 - Master's Thesis 1-4 unit(s) (4 units required)
- Thesis Defense 0 unit(s)

## Total Units Required (30 units)

Advanced Coursework must be planned in consultation with the Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

### *MS 103 - Marine Ecology*

4 unit(s)

Field-oriented introduction to interrelationship between marine and estuarine organisms and their environment emphasis on quantitative data collection and analysis.

*Lecture 2 hours; Lab/Field 6 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Ecology, statistics (or concurrent registration in MS 104), or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester. This course satisfies graduate-level GWAR in this master's program.

### *MS 104 - Quantitative Marine Science*

4 unit(s)

Mathematical methods for analysis of biological, chemical and physical from the marine environment; experimental design, parametric and non-parametric statistics.

*Misc/Lab: Lecture 3 hours/lab 3 hours.*

**Prerequisite(s):** College mathematics.

**Grading:** Graded

**Note(s):** Course cannot be used to meet 30-unit degree requirement. Offered fall semester.

### *MS 105 - Marine Science Diving*

3 unit(s)

Skin and SCUBA diving course; pool-training culminates in ten ocean dives. Topics covered include diving physics physiology, diving environments night diving and research diving. Successful completion gives NAUI and MLML

certification.

*Misc/Lab: Lecture 1 hour; lab/field 6 hours.*

**Prerequisite(s):** Certified SCUBA diver (or equivalency as determined by instructor), upper division science major status, thorough physical examination, ability to pass swimming test

**Grading:** Graded

**Note(s):** Course cannot be used to meet 30-unit degree requirement. Offered fall & summer.

*MS 112 - Marine Birds and Mammals*

*4 unit(s)*

Systematics, morphology, ecology and biology of marine turtles, birds, and mammals.

*Misc/Lab: Lecture 2 hours lab/field 6 hours.*

**Prerequisite(s):** Upper division college vertebrate zoology, instructor's consent; MS 103 recommended.

**Grading:** Graded

**Note(s):** Course is generally offered alternate fall semesters during the odd years.

*MS 113 - Marine Ichthyology*

*4 unit(s)*

A description of the taxonomy, morphology and ecology of marine fishes. Both field and laboratory work concentrate on the structure, function and habits of marine fishes and the ecological interactions of these fishes with their biotic and abiotic surroundings.

*Misc/Lab: Lecture 2 hours lab/field 6 hours.*

**Prerequisite(s):** College zoology (or equivalent) or instructor's consent. MS 103 recommended.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 114 - Physiological Ecology of Marine Animals*

*4 unit(s)*

Examines the adaptations animals have evolved to live in marine environments to deal with gradients in water, temperature, salinity, oxygen, exercise, nutrients as well as short-term physiological responses to environmental changes. Topics include metabolism, sensory systems, respiration, circulation, thermoregulation, osmoregulation.

*Misc/Lab: 2 hours lecture/ 6 hours lab*

**Prerequisite(s):** upper division vertebrate biology (physiology)

**Grading:** Graded

*MS 124 - Marine Invertebrate Zoology I*

*4 unit(s)*

A field-oriented introduction to the structure, systematics, evolution and life histories of the major marine phyla.

*Misc/Lab: Lecture 2 hours lab/field 6 hours.*

**Prerequisite(s):** College zoology or instructor consent; MS 103 recommended.

**Grading:** Graded

**Note(s):** Course is generally offered alternate fall semesters during the odd years.

*MS 131 - Marine Botany*

*4 unit(s)*

Introduction to the plants of the sea, marshes and dunes, with emphasis on the morphology, taxonomy and natural history of seaweeds and vascular plants.

*Misc/Lab: Lecture 2 hours/lab 6 hours.*

**Prerequisite(s):** MS 103 recommended, or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester.

*MS 135 - Physiological Ecology of Marine Algae*

*4 unit(s)*

Understanding the adaptations of marine algae to their environment, including respiration, enzyme activity, and biochemical composition. Hands-on experience in basic electronic instrumentation, chemical separations, optical measurements, culturing methods and radioisotope techniques. Designed for students interested in the biology of seaweeds and phytoplankton.

*Misc/Lab: Lecture 2 hours/lab and field 6 hours.*

**Prerequisite(s):** MS 103, MS 131, MS 144 or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester.

*MS 141 - Geological Oceanography*

*4 unit(s)*

A study of the structures, physiography and sediments of the sea bottom and shoreline.

*Lecture 2 hours; Lab/Field 6 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester. This course satisfies graduate-level GWAR in this master's program.

*MS 142 - Physical Oceanography*

*4 unit(s)*

An introduction to the nature and causes of various oceanic motions including currents, waves, tides and mixing, and

the physical properties of seawater including transmission of sound and light. Limited use of calculus.

*Lecture 2 hours/lab 4 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** College algebra, college physics recommended, or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester. This course satisfies graduate-level GWAR in this master's program.

*MS 143 - Chemical Oceanography*

*4 unit(s)*

An introduction to the theoretical and practical aspects of the chemistry of the oceans, including major salts, dissolved gases, nutrient ions, carbonate system, transient tracers and shipboard sampling techniques.

*Lecture 2 hours/lab 6 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** One year of college chemistry.

**Grading:** Graded

**Note(s):** Offered spring semester. This course satisfies graduate-level GWAR in this master's program.

*MS 144 - Biological Oceanography*

*4 unit(s)*

The ocean as an ecological system. Emphasis on the complexity of environmental influences on plankton, the transfer of organic matter between trophic levels and nutrient cycles. Laboratory sessions will include methods in sampling, shipboard techniques, identification of the plankton, and current analytical techniques.

*Lecture 2 hours/lab 6 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

**Prerequisite(s):** General biology, general chemistry, or instructor consent.

**Grading:** Graded

**Note(s):** Offered spring semester. This course satisfies graduate-level GWAR in this master's program.

*MS 175B - Topics in Marine Sciences (Lab)*

*1-4 unit(s)*

Study of selected area of marine sciences. Subjects vary depending upon demand and availability of instructors. May be repeated once for credit when topic changes.

*Misc/Lab: Lab 3-12 hours.*

**Prerequisite(s):** Instructor consent.

**Grading:** Credit/No Credit

*MS 180 - Independent Studies*

1-4 unit(s)

Faculty-directed study of selected problems; open to undergraduate students with adequate preparation. Offered every semester. May be repeated once for credit.

**Prerequisite(s):** Instructor consent.

**Grading:** Graded

*MS 201 - Library Research Methods in Marine Science*

1 unit(s)

Students will gain an advanced understanding of the nature of scientific information. Lectures, discussions and assignments will provide the framework for using and evaluating a variety of information sources in marine and ocean sciences. Strong emphasis will be placed on developing critical skills to interweave knowledge of the history of science into the context of bibliographic tools including the digital realm.

**Prerequisite(s):** Graduate standing, instructor consent.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 202 - Oceanographic Instrumentation*

4 unit(s)

Principles of instruments used in oceanographic research, introduction to electronics, and applications of instrument measurements. Emphasis will vary from CTD profilers, current meters, radiometry and chemical measurement.

*Misc/Lab: Lecture/discussion 2 hours; lab/field 6 hours.*

**Prerequisite(s):** Graduate standing; MS 141, MS 142 and instructor consent.

**Grading:** Graded

**Note(s):** Offered alternate spring semesters.

*MS 203 - Advanced Marine Ecology*

4 unit(s)

Marine ecology is the study of factors determining the distribution and abundance of marine organisms. This course focuses on the major ecological processes determining the structure and diversity of species assemblages at several scales, primarily at that of the community.

*2 hours lecture/ 6 hours lab.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Ecology, Statistics, Instructor consent, Graduate level.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*MS 204 - Sampling and Experimental Design*

4 unit(s)

Basic design of experiments and field sampling. Biases and problems of sampling marine biota.

**Prerequisite(s):** Graduate standing; MS 103 and MS 104.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 206 - Molecular Biological Techniques*

4 unit(s)

Laboratory-based overview of concepts and techniques for the isolation, characterization, and analysis of DNA and RNA. Covers standard methods (amplification, cloning, and sequencing), and selected specialized techniques (analysis of gene expression), emphasizing marine science applications.

*Misc/Lab: Lecture 2 hours/Lab 6 hours.*

**Prerequisite(s):** Graduate standing; college level genetics, molecular biology, or instructor consent.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 208 - Scientific Methods*

4 unit(s)

Course is designed to help students develop an understanding of strengths and limitations of various types of scientific reasoning, methodology, and analysis as they relate to scientific progress. Course centers on: round-table discussions of papers and techniques; interactive computer, laboratory, and field learning experiences; and development of critical thinking and writing skills.

*Misc/Lab: Lecture 3 hours/Lab 2 hours.*

**Prerequisite(s):** Graduate standing; instructor consent and approved thesis proposal.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 210 - Advanced Marine Mammals, Birds & Turtles*

4 unit(s)

This course examines the biology of marine mammals, birds and turtles. Topics include systematics and evolution, adaptations to the marine environment, diving physiology and behavior, communication and echolocation, ecology, and conservation. This class consists of lectures, discussions of recent literature, and laboratory exercises.

*Misc/Lab: 2 hours lecture/ 6 hours lab*

**Prerequisite(s):** Introductory Biology, upper division vertebrate biology (physiology, ecology or similar)

**Grading:** Graded

*MS 211 - Ecology of Marine turtles, Birds, and Mammals*

4 unit(s)

Community approach to the ecology of marine birds and mammals using experimental and sampling methodology.



The class will examine the distribution, abundance, trophic ecology, and behavior of birds and mammals in Elkhorn Slough and Monterey Bay.

*Misc/Lab: Lecture/discussion 2 hours; lab and field 6 hours.*

**Prerequisite(s):** Graduate standing; MS 103, MS 104 and MS 112 and instructor consent.

**Grading:** Graded

**Note(s):** Generally offered alternate fall semesters during even years.

*MS 212 - Advanced Topics in Marine Vertebrates*

*1-4 unit(s)*

Advanced consideration of the ecology, physiology and phylogeny of fishes, birds, reptiles or mammals, emphasizing current literature and research. Topics and emphasis will vary with term and instructor. May be repeated once for credit.

*Misc/Lab: Lecture, lab and field work variable.*

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** Graduate standing; MS 112 or MS 113 and instructor consent.

**Grading:** Graded

*MS 213 - Advanced Marine Ichthyology*

*4 unit(s)*

This course covers taxonomy and systematics, functional morphology, physiology, biogeography, and ecology of marine fishes at an advanced level. Accompanying laboratory and field sessions focus on taxonomic identification, morphological structure and function, and habits of marine fishes, and the ecological interactions of these fishes with their biotic and abiotic surroundings.

*Misc/Lab: Lecture 4 hours/Lab 12 hours*

**Prerequisite(s):** College zoology or equivalent or consent of instructor; MS 103 recommended.

**Grading:** Graded

*MS 214 - Physiological Ecology of Marine Animals*

*4 unit(s)*

Examines the adaptations animals have evolved to live in marine environments to deal with gradients in water, temperature, salinity, oxygen, exercise, nutrients as well as short-term physiological responses to environmental changes. Topics include metabolism, sensory systems, respiration, circulation, thermoregulation, osmoregulation.

*Misc/Lab: 2 hours lecture/ 6 hours lab*

**Prerequisite(s):** upper division vertebrate biology (physiology)

**Grading:** Graded

*MS 221 - Advanced Topics in Marine Invertebrates*

*1-4 unit(s)*

Advanced consideration of the ecology, physiology and phylogeny of the various invertebrate phyla emphasizing

current literature and research. Topics and emphasis will vary from term to term. May be once repeated for credit when topic changes.

*Misc/Lab: Lecture, laboratory and field work variable.*

**Prerequisite(s):** MS 124 and instructor consent.

**Grading:** Graded

*MS 231 - Biology of Seaweeds*

*4 unit(s)*

Discussions on on marine macroalgal biology with extensive reading of original literature. Ecologically-oriented individual research projects involving laboratory culture and field experimentation.

*Misc/Lab: Lecture 2 hours; lab/field work 6 hours.*

**Prerequisite(s):** Graduate standing; MS 131 or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester.

*MS 233 - Advanced Topics in Marine Ecology*

*1-4 unit(s)*

Selected topics and current issues in marine ecology. Subjects vary depending on student demand and availability of instructors. May be repeated once for credit when topic changes.

*Misc/Lab: Lecture, lab/field work variable.*

**Prerequisite(s):** Graduate standing; MS 103 and instructor consent.

**Grading:** Graded

*MS 234 - Advanced Biological Oceanography*

*4 unit(s)*

Experimental techniques in biological oceanography with emphasis on problems important in plankton ecology. An individual research project involving the use of one or more modern analytical tools will be required.

*Misc/Lab: Lecture 2 hours; lab/field work 6 hours.*

**Prerequisite(s):** Graduate standing; MS 144 or instructor consent.

**Grading:** Graded

**Note(s):** Offered fall semester.

*MS 248 - Marine Benthic Habitat Techniques*

*4 unit(s)*

Collection and interpretation of geophysical data used to characterize marine benthic habitats. Basic geophysical principals will be reviewed. Application of techniques to identify and characterize marine benthic habitats, including echosounders, multibeam bathymetry and backscatter, sidescan sonar, seismic profiling, and GIS.

*Misc/Lab: Lecture 2 hours; lab/field work 6 hours.*

**Prerequisite(s):** Graduate standing; MS 141 or instructor consent.  
**Grading:** Graded

**Note(s):** Offered alternate spring semesters during odd years.

*MS 261 - Mixing, Estuarine and Sediment Transport*

*4 unit(s)*

The mathematical description of the distribution of properties (density, dissolved oxygen, etc.) in the oceans relating to physical and biochemical processes. Equations of motion, geotropic method, and theory of distribution of variables.

*Misc/Lab: Lecture 3 hours; lab/field work 3 hours.*

**Prerequisite(s):** Graduate standing; MS 142 and college physics strongly recommended, or instructor consent.  
**Grading:** Graded

**Note(s):** Offered alternate spring semesters during odd years.

*MS 263 - Data Analysis in Marine Science*

*4 unit(s)*

Introduction to using observational oceanographic data, with hands on practice in scientific programming for data analysis. Lecture, discussion, and practical experience including the use of existing programs and subroutine libraries. Semester project required.

*Misc/Lab: Lecture 2 hours/lab 6 hours.*

**Prerequisite(s):** Graduate standing; MS 104, college math and instructor consent.  
**Grading:** Graded

**Note(s):** Offer spring semester.

*MS 272 - Subtidal Ecology*

*4 unit(s)*

The ecology of nearshore rocky subtidal populations and communities with emphasis on kelp forests. Lectures and discussions of original literature. Field work with SCUBA including group projects on underwater research techniques and community analysis. Individual research on ecological questions chosen by the student. Knowledge of marine algae, invertebrates and statistics recommended.

*Misc/Lab: Lecture 2 hours; lab/field work 6 hours.*

**Prerequisite(s):** Graduate standing; MS 103; MLML diver certification and marine ecology.  
**Grading:** Graded

**Note(s):** Offered alternate spring semesters during odd years.

*MS 273 - Marine Environmental Studies of the Gulf of California*

*4 unit(s)*

An analysis of Gulf of California marine environments. Lectures, readings, intensive field work, and written scientific paper based on original research. Topics vary. Taught with Mexican faculty and students from La Paz, Mexico. Must

be able to participate in 2 weeks of field work.

*Misc/Lab: Lecture 2 hours/lab 6 hours.*

**Prerequisite(s):** Graduate standing; instructor consent.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 274 - Advanced Topics in Oceanography*

*1-4 unit(s)*

Study of selected area in oceanography. Subjects vary depending on student demand and availability of instructors. May be repeated once for credit when topic changes.

*Misc/Lab: Lecture, lab/field work variable.*

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

*MS 280 - Scientific Writing*

*3 unit(s)*

Techniques and strategies of scientific writing used for proposals, journal submissions and abstracts of meetings. Emphasis to develop writing skills by preparing, editing, and rewriting manuscripts.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 281 - Coastal Dynamics*

*4 unit(s)*

Oceanographic dynamics of coastal environments, with an emphasis on eastern boundary current systems influenced by coastal upwelling. Interactions of physical and geological oceanography and how both affect coastal ecosystem dynamics.

*Misc/Lab: Lecture 4 hour/Lab 12 hours.*

**Prerequisite(s):** Graduate standing and MS 142 or MS 141.

**Grading:** Graded

**Note(s):** Offered spring semester.

*MS 285 - Graduate Seminar in Marine Science*

*2 unit(s)*

Seminar will be held on topics changing each semester. Each student will be required to give at least one seminar.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Graded

**Note(s):** Offered fall and spring semesters.

*MS 298 - Research in the Marine Science*

*1-4 unit(s)*

Independent investigations of an advanced character for the graduate student with adequate preparation.

**Prerequisite(s):** Graduate standing and instructor consent.

**Grading:** Mandatory CR/NC/RP

*MS 299 - Master's Thesis*

*1-4 unit(s)*

Offered spring and fall semesters. Available only to MLML Masters' students in good standing with the approval of their major advisor.

**Prerequisite(s):** classified graduate standing, advancement to candidacy.

**Grading:** Mandatory CR/NC/RP

*MS 1290R - Culminating Experience Supervision*

*1 unit(s)*

Continued work on thesis.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in MS 299

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

## Science Education Program

**Office:** Duncan Hall 224

**Telephone:** 408-924-4835

**Email:** [scied@sjsu.edu](mailto:scied@sjsu.edu)

**Website:** [www.sjsu.edu/scied](http://www.sjsu.edu/scied)

### Professors

Resa M. Kelly, Director

Ellen P. Metzger

### Associate Professors

Cassandra Paul

Elizabeth Walsh

### Assistant Professors

Tammie Visintainer

## Overview

In concert with the College of Science, the Science Education program offers professional development opportunities for science teachers at all levels. We design and coordinate courses that support the preparation of science teachers in the areas of biology, chemistry, earth science, and physics. In cooperation with the College of Education and the Secondary Education Program, we oversee the single subject teacher credential program in science through advising, coursework offerings and student teacher supervision. In addition, we offer a master's degree in Science Education.

## Master

### Science Education, MA

- Admissions Requirements
- Requirements for Advancement to Graduate Candidacy
- Requirements for Graduation
- Master's Requirements (30 units)
- Program Learning Outcomes

The MA in Science Education, offered by the Science Education Program, is a flexible program designed for prospective and practicing K-12 science teachers, educators and specialists working in informal or outdoor education, community college science educators, and prospective science education PhD students. The curriculum is designed to augment and broaden the candidate's knowledge of current advances in science education research, and connect these findings to best classroom practices.

For more information, please visit our website at [www.sjsu.edu/scied/academic\\_programs/masters](http://www.sjsu.edu/scied/academic_programs/masters).

Qualified students who have earned a multiple or single-subject credential at San José State University may apply up to 9 units of approved credential coursework from the College of Education and 3 units of approved credential coursework from the College of Science to the MA Science Education degree. Students who earned their credential elsewhere may transfer up to 9 units of completed post-graduate coursework to the MA Science Education program at the discretion of the Science Education Graduate Coordinator.

## Admissions Requirements

Minimum admission requirements to the Graduate Division are outlined in this catalog. In addition, classified standing requires an undergraduate major with a grade point average of 2.75.

- demonstrated subject-matter competency in science, either through a baccalaureate degree in science or by passing the Science Subtests I and II (test codes 118 and 119) of the California Subject Examinations for Teachers (CSET) and one Specialized Science CSET in either biology (120 or 124), chemistry (121 or 125), geoscience (122 or 126) or physics (123 or 127).
- evidence of appropriate goal(s) and commitment to graduate-level study as demonstrated by a personal statement written by the applicant and letters of recommendation from two or more persons qualified to judge the applicant's potential as a graduate student.

- a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE, if the applicant is from a country in which the native language is not English.
- approval of the graduate advisor and/or graduate committee.

## Requirements for Advancement to Graduate Candidacy

The student must satisfy general university requirements for advancement to candidacy as outlined in detail in this catalog. The University requires that all graduate students complete the Graduation Writing Assessment Requirement (GWAR) as a condition for advancement to candidacy. SCED 220 meets the GWAR requirement and is also a required course in this program, so no additional classes beyond the core courses for the MA - Science Education are needed to meet this requirement.

## Requirements for Graduation

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing SCED 220.*

## Culminating Experience

### Plan A (with Thesis)

This option requires a thesis in science education approved by a master's committee of no fewer than three members. The thesis is credited under SCI 299 units. At the end of the program, the candidate must successfully deliver an oral seminar and defense of the thesis, cumulatively known as a culminating experience. The written thesis must be submitted to the master's advisor and master's committee for approval before being submitted to the Office of Graduate Studies for university approval. Note: this is an uncommon choice for our graduate students.

### Plan B (with Project)

This option requires a project related to science education approved by a master's committee of no fewer than three members. The project is credited under SCED 298 units. At the end of the program, the candidate must successfully deliver an oral seminar and defense of the project, cumulatively known as a culminating experience. The written report of the project must be submitted to the master's advisor and master's committee. Note: the majority of our graduate students choose this path to graduation.

## Master's Requirements (30 units)

### Core Courses (9 units)

- SCED 273 - Secondary School Science 3 unit(s)
- SCED 205 - Methods of Research 3 unit(s)
- SCED 220 - Theories and Practices in Science Education 3 unit(s) (GWAR)

## Electives (18 units)

- SCED 255 - Advanced Natural Science 1-3 unit(s)
- SCED 285 - Seminar 3 unit(s)
- Other 100- or 200-level courses within the College of Science selected with advisor approval.

## Approved 100- or 200-level Courses Include:

*A maximum of 9 units taken through the College of Education may be applied with advisor approval, approved 100- or 200-level courses include:*

- EDSC 162 - Language/Literacy Development of L2 Learners 3 unit(s)
- EDSC 172A - Social, Philosophical Multicultural Fdn 3 unit(s)
- EDSC 173 - Psychological Foundations of Secondary Teacher Education 3 unit(s)
- EDSC 182 - Assessment and Evaluation 3 unit(s)
- EDSE 192A - Including and Supporting Students 3 unit(s)
- EDTE 190 - Health Education for the Classroom Teacher 3 unit(s)

## Culminating Experience (6 units)

### Complete One Option (Plan A or Plan B):

#### Plan A (Thesis)

- SCED 297 - Science Education Research 1-3 unit(s)
- SCI 299 - Master's Thesis 1-6 unit(s)
- Oral Defense

#### Plan B (Project)

- SCED 297 - Science Education Research 1-3 unit(s)
- SCED 298 - Research 1-6 unit(s)
- Oral Defense

## Total Units Required (30 units)

Elective courses must be planned in consultation with the Graduate Coordinator and Graduate Advisor.

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.



## Minor

- EDEL 294 - Research and Practices in Health and Special Education 3 *unit(s)*

### Complete One Course From:

- SCED 273 - Secondary School Science 3 *unit(s)*
- EDEL 108B - Curriculum: Science 1-3 *unit(s)*

### Complete One Course From:

- SCED 175 - Classroom Experiences in Science Teaching 1 *unit(s)* (*Must take SCED 175 twice to meet requirement*)
- SCED 174 - Training to Teach 3 *unit(s)*

### Complete One Course From:

- EDSC 173 - Psychological Foundations of Secondary Teacher Education 3 *unit(s)*
- EDTE 224 - Seminar in Educational Psychology 3 *unit(s)*

## Total Units Required (14 units)

*SCED 5 - Human Development and the Natural World*

3 *unit(s)*

Introductory course examining the role of the natural world on the physiological, social, and psychological development of human beings within the context of the environmental, social, and academic community system.

## Science Education Minor

The science education minor is designed as a program of study that will allow students who are interested in becoming elementary and middle school teachers to satisfy the Introductory Science Authorization course work requirements of the California Commission on Teacher Credentialing.

*Satisfies E: Human Understanding & Development*

**Grading:** Graded

*SCED 174 - Training to Teach*

*3 unit(s)*

This is a service learning course in which students will investigate how people learn and how to teach as they are immersed in teaching roles in the San Jose community that involve them acting as: Instructors leading small groups in science after school activities, facilitators assisting teachers with student centered activities and tutors providing personalized assistance.

*Misc/Lab: Lecture 3 hours/Activity 3 hours.*

**Prerequisite(s):** CHEM 1A or CHEM 30A, MATH 19

**Grading:** Graded

*SCED 175 - Classroom Experiences in Science Teaching*

*1 unit(s)*

The goal of this hybrid online/face-to-face course is to provide students with the opportunity to complete their 45 hours of science teaching observation in California public schools while also reflecting on teaching and learning practices. The course will emphasize the multi-faceted aspects of the teaching profession and most importantly will provide a forum for sharing experiences with other students who are similarly placed. The course will fulfill pre-professional teaching observation experience required of most Single Subject Teacher Credential Programs.

**Prerequisite(s):** Sophomore or upper division standing. Not available to Open University Students.

**Grading:** Graded

*SCED 184Y - Student Teaching II - Classroom Teaching*

*4 unit(s)*

Minimum 80-120 class hours of classroom, lab or field teaching in appropriate single subject, grades K-12 and related teaching activities/seminar.

**Prerequisite(s):** SCED 273 (Science Credential Candidates must complete SCED 273 with a grade of "B" or better, "B-" not accepted) and joint approval of the Science Education Program and the Secondary Education Department. Not available to Open University Students.

**Grading:** Credit/No Credit

*SCED 184Z - Student Teaching III - Classroom Teaching*

*4 unit(s)*

Minimum 80-120 class hours of classroom, lab or field teaching in appropriate single subject, grades K-12 and related teaching activities/seminar.

**Prerequisite(s):** SCED 273 (Science Credential Candidates must complete SCED 273 with a grade of "B" or better, "B-" not accepted) and joint approval of the Science Education Program and the Secondary Education Department. Not available to Open University Students.

**Grading:** Credit/No Credit

**Note(s):** May be in different subject/school and will be at a different grade level.

*SCED 204 - Earth Systems Science for Teachers*

3 unit(s)

Peer teaching and leadership instruction in earth science. Demonstrations, classroom activities, field projects and teaching strategies for K-12 teacher groups.

**Prerequisite(s):** Teaching credential and instructor consent.

**Grading:** Graded

*SCED 205 - Methods of Research*

3 unit(s)

Introduction to techniques and procedures of scientific research. Each student required to prepare and defend a working outline of a master's thesis or project in his or her area of concentration.

*Misc/Lab: Lecture/seminar 3 hours.*

**Grading:** Graded

**Note(s):** Introductory course in statistics or equivalent recommended.

*SCED 220 - Theories and Practices in Science Education*

3 unit(s)

Analysis of current trends in science curriculum and instruction. Orientation for the philosophy and scope of the program. Emphasis on development of a theory of instruction and curriculum in science with implications for practice.

*Misc/Lab: Lecture/seminar 3 hours.*

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** Teaching experience preferred. Must be taken during first year in program. This course satisfies graduate-level GWAR in this master's program.

*SCED 255 - Advanced Natural Science*

1-3 unit(s)

Selected topics in natural science or science education. Repeatable: Repeatable for credit.

**Grading:** Graded

*SCED 273 - Secondary School Science*

3 unit(s)

(Formerly SCED 173) Theory and practice, instructional techniques, and materials for science in the secondary schools.

*6 hours Activity.*

**Prerequisite(s):** CSET Subtest I (test code 215) covers general science content and CSET Subtest II (test

codes 217-220) select the subtest II that fits candidate's area of concentration. Life Sciences (test code 217), Chemistry (test code 218), Earth and Space Sciences (test code 219), Physics (test code 220).

**Grading:** Graded

*SCED 285 - Seminar*

3 unit(s)

Provides a format for the presentation and discussion of original work by faculty, guest investigators and graduate students.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Graded

*SCED 297 - Science Education Research*

1-3 unit(s)

Research in science education under the supervision of a faculty member associated with the science education program.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Credit/No Credit

*SCED 298 - Research*

1-6 unit(s)

Project development for Plan B MA Natural Science students, to be carried out under direct supervision of a faculty member and committee. Seminar presentation required upon final completion of project. Repeatable: Repeatable for credit.

*Course may be repeated for credit for up to 6 units.*

**Grading:** Mandatory CR/NC/RP

*SCED 375 - Colloquium in Science Education*

2 unit(s)

Resources and innovations for science curriculum development and instruction. An interface with people and facilities which can enhance Bay Area science instruction.

**Corequisite(s):** SCED 184Y or SCED 184Z.

**Grading:** Credit/No Credit

**Note(s):** Also open to experienced teachers.

*SCED 1290R - Culminating Experience Supervision*

1 unit(s)

Continued Work on Thesis

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

# College of Professional and Global Education

*Formerly International and Extended Studies*

**Office:** Student Union West

**Telephone:** 408-924-2670

**Email:** cpge@sjsu.edu

**Website:** [www.sjsu.edu/cpge](http://www.sjsu.edu/cpge)

## Overview

In the College of Professional and Global Education, we provide access to relevant educational programs that allow individuals to gain knowledge and skills that create a solid foundation for them to be engaged and productive members of a global society. We offer a learning environment that is dynamic and innovative, ensuring that we are responsive to the ever-evolving workforce and industry demands. Our college is the nexus for connecting professionals, institutions, businesses and industries, locally and from around the world, to the knowledge, resources, and talents of Silicon Valley's premier public university.

## Academics

The College of Professional and Global Education offers interdisciplinary and forward-looking academic programs that prepare professionals to address the world's increasing challenges around analyzing, managing, protecting, securing, designing, organizing, and preserving data, information, records, and archives through technology-oriented and user-focused practices. The two academic units within the College of Professional and Global Education are the Department of Applied Data Science and the School of Information. Students have the opportunity to study full-time or part-time, learn in person or online, and pursue their education through master's degrees, a credential program, and certificate programs.

Our college offers the following graduate programs:

- MS in Data Analytics
- MS in Informatics
- Master in Library and Information Science
- Master in Archives and Records Administration
- Teacher Librarian Credential
- Post Master's Certificate in Library and Information Science
- Advanced Certificate in Strategic Management of Digital Assets and Services

## Professional Education

At our College, we provide career-minded students and working professionals with the real-world knowledge, experience, and access they need to compete and succeed in a contemporary work force. Within the California State

University (CSU), we have the most extensive portfolio of graduate, academic programs, with the highest enrollments. Through our College or in partnership with six academic colleges, we offer a total of 22 professional degree programs at the Masters level and 15 advanced certificate, and three credential programs.

In addition to our degree programs, we offer credit-earning courses to augment and complement regularly scheduled classes. Through Open University individuals from outside the university can enroll in university courses on a space-available basis and gain college credit. In winter intersession and summer intersession, we have a robust offering of courses, including General Education (GE) courses. These accelerated-format university courses are perfect for satisfying prerequisites, completing GE or major course requirements, or enabling a faster pace towards graduation.

Finally, we offer continuing education courses for professionals (such as teachers and project managers) to meet their industry's continuing education requirements for maintaining credentials or career advancement.

## Global Education

In our College, we are committed to internationalizing our campus in order to cultivate an environment of diversity and inclusion, and to graduate students who are prepared to live and lead in an increasingly globalized world.

Our College serves more international students than any other master's granting university in the U.S. Students have high success in obtaining internships and work opportunities in Silicon Valley via curriculum practical training during their studies, and once they graduate with over 2,000 students participating in OPT/STEM OPT.

Our International Student & Scholar Services office (ISSS) offers comprehensive immigration advising and co-curricular support programming for our international students and scholars. The goal of ISSS is to enhance the students' experience in the United States and integrate them into our community, while also contributing to their success during their tenure at SJSU and beyond.

In addition, our Study Abroad and Away office offers an extensive portfolio of off-campus globally focused programs that strive to meet the personal, academic, and professional goals of our students. We aim to provide programs for all SJSU students to learn and discover other cultures first-hand, including study abroad (international) and away (domestic), short-term (winter, spring, and summer breaks) and long-term (semester and year-long) options.

Our International Gateways unit provides comprehensive support services and instruction to help non-matriculated international students thrive at our University. Through International Conditional Admissions, we help students apply for Conditional Admission/Eligibility to SJSU undergraduate and graduate degree programs. Our non-credit Academic English and Test Preparation courses prepare students to meet the SJSU English language admission requirements and learn American academic culture. International students interested in studying abroad in Silicon Valley can participate in our Semester at SJSU program. In addition to regularly scheduled programs, we partner with global universities and SJSU academic departments to develop and deliver customized non-credit programs for students and professionals.

For more information about programs offered in CPGE, please visit [www.sjsu.edu/cpge](http://www.sjsu.edu/cpge).

### **Study Abroad and Away (SAA)**

Student Union  
408-924-5931  
[www.sjsu.edu/studyabroad](http://www.sjsu.edu/studyabroad)  
[spartansabroad@sjsu.edu](mailto:spartansabroad@sjsu.edu)

### **SJSU International House**

Student Union  
408-924-6570

[www.sjsu.edu/ihouse](http://www.sjsu.edu/ihouse)  
[ihouse@sjsu.edu](mailto:ihouse@sjsu.edu)

### **International Student and Scholar Services (ISSS)**

Services and programs for international students

Student Union  
408-924-5920  
[www.sjsu.edu/iss](http://www.sjsu.edu/iss)  
[international-office@sjsu.edu](mailto:international-office@sjsu.edu)

## **Department of Applied Data Science**

**Office:** Student Union West

**Telephone:** 408-924-2639

**Email:** [applied-data-science@sjsu.edu](mailto:applied-data-science@sjsu.edu)

### **Professors**

Lee C. Chang, Chair  
Subhankar Dhar, School of Information Systems and Technology  
Jerry Z. Gao, Department of Computer Engineering  
Simon Shim, Department of Computer Engineering  
Ashraf Shirani, School of Information Systems and Technology

### **Assistant Professors**

Shih Yu Chang  
Seungjoon Lee

## **Overview**

The Applied Data Science Department offers academic programs to address emerging workforce demands of interdisciplinary talents designing and deploying intelligent solutions to real-world data challenges. Students acquire a comprehensive understanding and knowledge of the principles, methodologies and technologies of data science. Silicon Valley is known for its leadership in the big data economy and its demand of talents in response to the exponential growth of data. The department continuously seeks guidance from leading data professionals and companies to ensure that the curriculum is relevant for growing the talents needed in Silicon Valley.

Local data professionals regularly interact with our students through teaching classes, speaking at seminars, sponsoring internships, and supervising master projects. Faculty members actively engage with industry partners and sponsors to assess our curricula and update learning objectives in order to provide the most up-to-date skills for supporting the innovations from this region.

The department is an academic hub, in partnership with other SJSU departments and industry partners, for promoting education and research in applied data science. In order to address the immense demands of data science professionals, the department launched a MS in Data Analytics program in August 2018. This program provides students with the advanced education necessary to draw insights from real data and apply analytical skills to solve practical problems.



## Data Analytics, MS

The Master of Science in Data Analytics is developed in partnership with industry experts targeting students from diverse academic and professional backgrounds. Students receive the advanced education necessary to apply analytics to solve real-world problems by immersing them in the full data analytics process lifecycle.

Students learn how to build portfolios of data analytics projects by leveraging the interrelationship between domain data knowledge and emerging information technologies. Students advance their knowledge and skills through the integration of:

- Identifying domain-specific problems, defining requirements, and establishing measurable organizational objectives.
- Performing data exploration, preparation, visualization, and governance.
- Applying programming, statistics, database, data mining, and machine learning technologies to build models for descriptive, diagnostic, predictive, and prescriptive data analytics.
- Engaging in the development, validation, and monitoring of data analytics systems to meet requirements and objectives.

Today most organizations treat analytics as a strategic asset, and analytics is central to many functional roles and skills. This program prepares students for a career in data analytics in almost all industry domains. Potential career roles for graduates include data analyst, data administrator, business intelligence analyst, and information research scientist.

*The program is offered in both regular and special sessions. For more information, contact the Department of Applied Data Science.*

## Admissions Requirements

### Admission to University

Candidates must apply through the CSU admissions portal, Cal State Apply, and meet all university admission requirements. Applicants will need to apply separately to the university to obtain approval for university-level admission and to CPGE to obtain admission into the MS in Data Analytics.

In addition to holding a bachelor's degree as required above, international applicants (or applicants who earned their degrees in a country where the primary language is not English) must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

### Admission to Program

Candidates must meet all the university admission requirements. Students can be admitted in either classified or conditionally classified standing. To be admitted to classified standing, the successful applicant must have earned a bachelor's degree from a regionally accredited institution and achieved a GPA of at least 3.0 (on a 4.0 scale) in the bachelor's degree institution or in the last 60 semester or 90 quarter units of all coursework. Also required is at least one semester each of college calculus, statistics, and a programming course.

## Admission to Conditionally Classified Standing

An applicant might be conditionally admitted to the program with marginal deficiency in the above requirements. The individual admission notification will explain the required terms and conditions for attaining Classified standing.

## Requirements for Advancement to Candidacy

The university requirements for advancement to candidacy for the master's degree are outlined in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR), described in this catalog. DATA 294 is a multidisciplinary seminar class that exposes students to multiple domains in data analytics and satisfies the GWAR for this program. For graduate courses that meet the GWAR, refer to the GWAR Course List on the Graduate Studies website.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

### MS - Data Analytics Graduation Requirements

This is an interdisciplinary program consisting of 10 courses with both in-person and online modes of instruction. As shown below, each of the 6 core, 2 elective, and 2 thesis or project courses is 3 semester units.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Culminating Experience (Plan A or Plan B)

All students must complete one of the following culminating experience options as part of their 30-unit program requirement.

#### Plan A (Thesis)

Students opting to complete a master's thesis will take the DATA 299A and DATA 299B as a two-course sequence. The student is responsible for securing the commitment of a full-time tenured or tenure-track faculty member who agrees to serve as the thesis committee chair. The student must also secure the commitments of two additional university faculty members, one of whom must be a full-time tenured or tenure-track faculty member, to serve as the student's thesis committee. The student must write a thesis proposal and have it approved by the thesis committee and pass the DATA 299A course before enrolling in DATA 299B. The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

**Plan B (Project)**

The graduate project is a research or development effort performed by a team of students on a topic chosen by mutual agreement between an advisor and the team. The choice of project topic must also be approved by the instructor of DATA 298A. DATA 298A is the first part of the master's project in which students develop a comprehensive plan and preliminary design of a data analytics project. DATA 298B is the second part of the master's project course in which each student completes an in-depth written projects to achieve the program outcomes and satisfy the program's culminating experience requirement.

**Masters Requirements (30 units)****Core Courses (18 units)**

- DATA 220 - Mathematical Methods for Data Analytics 3 unit(s)
- DATA 225 - Database Systems for Analytics 3 unit(s)
- DATA 230 - Data Visualization 3 unit(s)
- DATA 240 - Data Mining and Analytics 3 unit(s)
- DATA 245 - Machine Learning Technologies 3 unit(s)
- DATA 294 - Data Analytics Seminar 3 unit(s) (GWAR)

**Electives (6 units)**

*Six units 200-level elective courses selected in consultation with the graduate advisor.*

**Culminating Experience (6 units)**

Complete One Plan:

**Plan A (Thesis) (6 units)**

- DATA 299A - MSDA Thesis I 3 unit(s)
- DATA 299B - MSDA Thesis II 3 unit(s)

**Plan B (Project) (6 units)**

- DATA 298A - MSDA Project I 3 unit(s)
- DATA 298B - MSDA Project II 3 unit(s)

**Total Units Required (30 units)**

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU Cumulative grade point averages of 3.0 in order to graduate.

*DATA 200 - Computational Programming for Data Analytics*

*3 unit(s)*

Computational thinking and problem solving; data structures, algorithms, iterations, functions, and other core

concepts; standard libraries; functional programming and object-oriented programming; applications to data processing, data analytics, data visualization, and database manipulation.

**Prerequisite(s):** Admission into MS in Data Analytics and instructor consent.

**Grading:** Credit / No Credit

*DATA 220 - Mathematical Methods for Data Analytics*

3 unit(s)

Mathematical and Statistical methods for Data Analytics. Selected topics from probability, statistics, linear algebra, and mathematical optimization. Programming for numerical implementation of mathematical and statistical algorithms.

**Prerequisite(s):** Instructor Consent.

**Grading:** Graded

*DATA 225 - Database Systems for Analytics*

3 unit(s)

Design operational and analytical databases with relational, dimensional, and NoSQL data models; deploy data analytics applications with SQL programming and data access APIs; perform data cleansing, extract, transform, and load (ETL) operations for data warehouses and online analytical processing (OLAP).

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*DATA 228 - Big Data Technologies and Applications*

3 unit(s)

Leverage emerging big data systems, technologies, and applications to transform data into knowledge through capturing, managing, analyzing, and understanding large data at volumes and rates; design analytical solutions in data warehouse, big data databases, data streaming, security and governance.

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*DATA 230 - Data Visualization*

3 unit(s)

Study data visualization as an analytical tool, a medium of communication, and the basis for interactive dashboards; apply cognitive theories and design principles in the development of presentations and visualizations; create digital data visualizations using emerging software packages and environments.

**Prerequisite(s):** Classified standing or instructor consent.

**Grading:** Graded

*DATA 240 - Data Mining and Analytics*

3 unit(s)

Learn data mining technologies for Knowledge Discovery in Databases (KDD) process including system architectures, functionalities, methodology, query language, user interaction, and performance; extract patterns and identify knowledge for diverse applications in data analytics, decision support, text mining, and stream mining.

**Prerequisite(s):** DATA 220 and DATA 225, or instructor consent.  
**Grading:** Graded

*DATA 245 - Machine Learning Technologies*

3 unit(s)

Learn concepts, techniques and algorithms in machine learning for the development of real-world applications; build, evaluate and refine machine learning models to predict patterns from trained data sets; apply supervised and unsupervised learning methodologies in solving classification and regression problems.

**Prerequisite(s):** DATA 220 and DATA 225, or instructor consent.  
**Grading:** Graded

*DATA 250 - Large Scale Data Analytics*

3 unit(s)

Learn and apply data analytics technologies and processes to large amount of data in various application domains; technologies include big data analytics algorithms, process and solutions, technology platforms, and data repositories; processes include validation, cleaning, preprocessing, and visualization.

**Prerequisite(s):** DATA 228 or instructor consent.  
**Corequisite(s):** DATA 240 or instructor consent.  
**Grading:** Graded

*DATA 255 - Deep Learning Technologies*

3 unit(s)

Study deep learning theory, techniques and technologies; implement neural networks using deep learning frameworks to solve problems in various application domains; build convolutional networks for image recognition, recurrent networks for sequence generation, and generative adversarial networks for image generation.

**Prerequisite(s):** DATA 245 or instructor consent.  
**Grading:** Graded

*DATA 294 - Data Analytics Seminar*

3 unit(s)

Advanced and domain specific topics in the area of data analytics; content is updated in each offering; possible topics include though not restricted to research design and data analytics for the applications of business, engineering, natural science, social science, etc.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Graduate standing and instructor consent  
**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*DATA 295 - Special Problems in Data Analytics*

3 unit(s)

Advanced individual work in data analytics. Repeatable with graduate advisor approval.

**Grading:** Credit/No Credit

*DATA 296 - Special Topics in Data Analytics*

3 unit(s)

Special topics in Data Analytics. Content varies from semester to semester. Repeatable in different topic areas.

**Prerequisite(s):** Instructor Consent

**Grading:** Graded

*DATA 297 - Data Analytics Internship*

1 unit(s)

Fieldwork for MS in Data Analytics students. A report is required at the end of the semester addressing the goals set at the start of the assignment.

**Prerequisite(s):** Completed 12 units degree required courses, classified status, in good standing, and graduate advisor consent

**Grading:** Credit/No Credit

*DATA 298A - MSDA Project I*

3 unit(s)

Comprehensive plan and preliminary design of data analytics project; integration of knowledge in technologies, processes and management to support program outcomes.

**Prerequisite(s):** Classified status, good standing, DATA 294, and graduate advisor consent.

**Grading:** Graded

*DATA 298B - MSDA Project II*

3 unit(s)

Completion of an in-depth project to achieve the program outcomes and satisfy the cumulating experience; write a detailed project report; make a comprehensive presentation and demonstration.

**Prerequisite(s):** Advancement to candidacy, DATA 298A, and graduate advisor consent.

**Grading:** Graded

*DATA 299A - MSDA Thesis I*

3 unit(s)

First of a two-course sequence for the Plan A (Thesis) culminating experience.

**Prerequisite(s):** Classified status, good standing, DATA 294, and graduate advisor consent

**Grading:** Credit / No Credit

*DATA 299B - MSDA Thesis II*

3 unit(s)

Second of the two-course sequence for the Plan A (Thesis) culminating experience.

**Prerequisite(s):** Admission to candidacy, DATA 299A, and graduate advisor consent.

**Grading:** Mandatory CR/NC/RP

## School of Information

**Office:** Clark Hall 417

**Telephone:** 408-924-2490

**Website:** [ischool.sjsu.edu](http://ischool.sjsu.edu)

### Professors

Anthony Bernier

Patricia Franks

Geoffrey Liu

Ziming Liu

David Loertscher

Lili Luo

Linda Main, Interim Director

Kristen Rebmann

### Associate Professors

Joni Bodart

Michelle Chen

Tonia San Nicolas Rocca

Michael Stephens

### Assistant Professors

Mary Ann Harlan

Deborah Hicks

Souvick Ghosh

Darra Hofman

Virginia Tucker

Michele Villagran

## Overview

The San Jose State University (SJSU) School of Information prepares individuals for careers as information professionals. Graduates work in diverse areas of the information profession, such as user experience design, digital asset management, information architecture, electronic records management, information governance, digital preservation, and librarianship. The SJSU School of Information is a recognized leader in online education and received the Online Learning Consortium's Outstanding Online Program award. For more information: [ischool.sjsu.edu](http://ischool.sjsu.edu)

## Archives and Records Administration, MARA

The fully online Master of Archives and Records Administration (MARA) degree program at the San Jose State University School of Information prepares students for leadership positions in information governance and corporate archives.

With the convenient and fully online MARA program, students can live anywhere while they earn their graduate degrees. The master's program is delivered exclusively online via interactive online learning technology. The multimedia format enlivens the learning experience while introducing students to the same types of tools they'll use in their professional careers.

For more information: [ischool.sjsu.edu](http://ischool.sjsu.edu).

## Requirements for Admission to Classified Standing

Candidates must meet all university admissions requirements. Applicants who meet the following requirements beyond university requirements will be considered for classified admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 3.0 at the bachelor's degree institution or in the last 60 semester or 90 quarter units.
- A general understanding of computers and technology. See Technology Literacy Requirements.
- The School requires that all students have computer access from home. See Home Computing Requirements.
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

## Requirements for Admission to Conditionally Classified Standing

The School of Information does not admit students on a conditional basis.

## Requirements for Advancement to Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MARA degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate. For additional program requirements and submission instructions, refer to the MARA Candidacy Approval Form Information website.

## Requirements for Graduation



# University Graduation Requirements

Students must complete all residency, curriculum, unit, and GPA requirements as outlined in the Graduation Requirements section of the Policies and Procedures.

## Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees.

## Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

### Masters Requirements (42 units)

#### Core Courses (27 units)

- MARA 200 - Record and Recordkeeping Professions 3 *unit(s)* (GWAR)
- MARA 204 - Management of Archives, Records, Inf. Governance 3 *unit(s)*
- MARA 210 - Records Creation, Appraisal, and Retention 3 *unit(s)*
- MARA 211 - Access, Storage and Retrieval of Records 3 *unit(s)*
- MARA 249 - Management of Digital Data, Information, Records 3 *unit(s)*
- MARA 283 - Enterprise Content Management and Digital Preservation 3 *unit(s)*
- MARA 284 - Seminar in Archives and Records Management 1-3 *unit(s)* (3 units required) (Students take MARA 284 twice with different content)
- MARA 285 - Research Methods in Records Management and Archival Science 3 *unit(s)*

#### Electives (12 units)

Complete twelve units:

- INFO 202 - Information Retrieval System Design 3 *unit(s)*
- INFO 220 - Resources and Information Services in Professions and Disciplines 1-3 *unit(s)*
- INFO 240 - Information Technology Tools and Applications 3 *unit(s)*
- INFO 242 - Database Design and Management 3 *unit(s)*
- INFO 246 - Information Technology Tools and Applications - Advanced 1-3 *unit(s)*
- INFO 247 - Vocabulary Design 3 *unit(s)*
- INFO 248 - Beginning Cataloging and Classification 3 *unit(s)*
- INFO 251 - Web Usability 3 *unit(s)*
- INFO 256 - Archives and Manuscripts 3 *unit(s)*
- INFO 259 - Preservation Management 3 *unit(s)*
- INFO 280 - History of Books and Libraries 3 *unit(s)*

- INFO 281 - Seminar in Contemporary Issues 1-3 *unit(s)*
- INFO 282 - Seminar in Library Management 1-3 *unit(s)*
- INFO 284 - Seminar in Archives and Records Management 1-3 *unit(s)*
- INFO 287 - Seminar in Information Science 1-3 *unit(s)*
- INFO 298 - Special Studies 1-3 *unit(s)*
- MARA 294 - Professional Experience 3 *unit(s)*

### Culminating Experience (Plan B only) (3 units)

- MARA 289 - Advanced Topics in Archives and Records Administration (ePortfolio) 1-3 *unit(s)* (3 *units* required)

### Total Units Required (42 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## California Library Media Teacher Services Credential

To qualify for the California Library Media Teacher Services Credential with authorization as a library media teacher, the student must complete the credential course work outlined here in the university catalog.

Students must either already hold a valid California teaching credential or complete the requirements for a basic teaching credential (see College of Education section for requirements for a teaching credential).

### Core Courses (10 units)

- INFO 200 - Information Communities 3 *unit(s)* (GWAR)
- INFO 202 - Information Retrieval System Design 3 *unit(s)*
- INFO 203 - Online Learning: Tools and Strategies 1 *unit(s)*
- INFO 204 - Information Professions 3 *unit(s)*

### Program Curriculum and Technology (9 units)

- INFO 233 - School Library Media Centers 3 *unit(s)*
- INFO 250 - Design and Implementation of Instructional Strategies for Information Professionals 3 *unit(s)*
- INFO 285 - Applied Research Methods 1-4 *unit(s)*

### Information Services and Materials (9 units)

- INFO 237 - School Library Media Materials 3 *unit(s)*
- INFO 248 - Beginning Cataloging and Classification 3 *unit(s)*
- INFO 266 - Collection Management 3 *unit(s)*

### Capstone Course (3 units)

- INFO 295 - School Library Field Work 3 *unit(s)*

Total Units Required (21 units)

## Informatics, MS

Informatics is an interdisciplinary and inter-professional field that focuses on collecting, analyzing, securing, and managing data and information; and turning that data and information into actionable knowledge from a user centered perspective within the context of another domain - such as health or sports.

Students will take 18 units of course work that will provide the **foundations and skills** needed to:

- Design and develop secure user-centered knowledge structures for the Web environment using design thinking, prototyping, and human computer interaction tools.
- Set up secure digital assets management systems (DAM) working with metadata, workflow, taxonomy, data security, governance, and preservation of digital assets.
- Define, identify, control, manage, secure, and preserve electronic records and information including the management of records and information as operational, legal and historical evidence in electronic environments.
- Manage projects: people, timelines, resources, goals, and outcomes.

Students will apply the above informatics skill set in one of three domains with an additional 9 units focused on health, sports, or cybersecurity/privacy.

However, the central set of knowledge and skills obtained in the foundation and skills courses can be applied to many different domains as graduates develop their careers.

For more information: [ischool.sjsu.edu/programs/ms-informatics](http://ischool.sjsu.edu/programs/ms-informatics).

## Requirements for Admission to Classified Standing

Candidates must meet all university admission requirements.

Applicants who meet the following requirements beyond university requirements will be considered for admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 2.8 at the bachelor's degree institution or in the last 60 semester or 90 quarter units.
- Skill with HTML5 and CSS3 - or updated standards -as demonstrated via class transcripts or work experience.
- The School requires that all students have computer access from home. See Home Computing Requirements.
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

## Requirements for Admission to Conditional Classified Standing

The School of Information does not admit students on a conditional basis.

## Requirements for Advancement to Graduate Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the Informatics degree are detailed in the Graduate Policies and Procedures section. Candidacy includes successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

#### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow special session fee and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or program will trigger a separate and additional set of fees. This may require an additional enrollment appointment from the Registrar and it may have implications for financial aid status or requirements. Please visit the CPGE website for more information.

### Master's Requirements (30 units)

#### Foundation and Skills (18 units)

- INFM 200 - Informatics: Fundamentals *3 unit(s)* (GWAR)
- INFM 201 - Informatics: Technology Foundations *2 unit(s)*
- INFM 202 - Informatics: Security Overview *1 unit(s)*
- INFM 203 - Big Data analytics and Management *2 unit(s)*
- INFM 204 - Human Centered Design *2 unit(s)*
- INFM 205 - Informatics: Project Management *2 unit(s)*
- INFM 206 - Electronic Records: Foundations *3 unit(s)*
- INFM 207 - DAM: Digital Assets Management *2 unit(s)*
- INFM 208 - Information Security: Info Assurance *1 unit(s)*

#### Specialization Area (9 units)

*Specializations will be offered on a rotating basis: Health, Sports, Cybersecurity and Privacy*

## Health Specialization

- INFM 210 - Health Informatics 3 *unit(s)*
- INFM 213 - Epidemiological Methods 3 *unit(s)*
- INFM 214 - Health Data and Analytics 3 *unit(s)*

## Sports Specialization

- INFM 218 - Sports Analytics 3 *unit(s)*
- KIN 264 - Sport Sociology 3 *unit(s)*
- KIN 282 - Marketing and Social Aspects of Sport 3 *unit(s)*

## Cybersecurity and Privacy Specialization

- INFM 215 - Network Security 3 *unit(s)*
- INFM 216 - Computer Digital Forensics 3 *unit(s)*
- INFM 217 - Tools Lab 3 *unit(s)*

## Culminating Experience (Plan B Only) (3 units)

- INFM 211 - Organizational Consulting Project (OCP) 3 *unit(s)*

## Total Units Required (30 units)

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Library and Information Science, MLIS

The San José State University (SJSU) School of Information prepares individuals for careers as information professionals. Graduates work in diverse areas of the information profession, such as user experience design, digital asset management, information architecture, electronic records management, information governance, digital preservation, and librarianship. The SJSU School of Information delivers all of its degrees and certificates fully online. It is a recognized leader in online education and received the Online Learning Consortium's Outstanding Online Program award.

For more information: [ischool.sjsu.edu](http://ischool.sjsu.edu).

## Requirements for Admission to Classified Standing

Candidates must meet all university admission requirements. Applicants who meet the following requirements beyond university requirements will be considered for admission into the School of Information:

- A bachelor's degree from any regionally accredited institution in any discipline with a GPA of at least 3.0 at the bachelor's degree institution or in the last 60 semester or 90 quarter units.
- A general understanding of computers and technology. See Technology Literacy Requirements.
- The School requires that all students have computer access from home. See Home Computing Requirements.
- Applicants from countries in which the native language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage of GAPE.

## Requirements for Admission to Conditionally Classified Standing

The School of Information does not admit students on a conditional basis.

## Requirements for Advancement to Graduate Candidacy

In order to achieve candidacy, students must meet the university requirements for candidacy. General university requirements for advancement to candidacy for the MLIS degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

Students must complete and submit the Petition for Advancement to Graduate Candidacy after completion of nine units and by the posted deadlines for the semester in which they plan to graduate. For additional program requirements and submission instructions, refer to the MLIS Candidacy Approval Form Information website.

## Requirements for Graduation

### University Graduation Requirements

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

#### Special Session Program Information

Academic Programs offered through Special Session are operated by the College of Professional and Global Education (CPGE). Registration and enrollment in a Special Session course or program must use the special session application form and will follow the special session fees and course schedules. Note that regular session students seeking to enroll simultaneously in a special session course or the program will trigger a separate and additional set of fees.

### Graduation Writing Assessment Requirement

At SJSU, students must pass the Graduation Writing Assessment Requirement (GWAR).

*This requirement is satisfied by passing INFO 200.*

## Culminating Experience

### Plan A (Thesis)

The thesis must meet university requirements as stipulated in this catalog and in the SJSU Master's Thesis and Doctoral Dissertation Guidelines. It will be written under the guidance of the candidate's thesis committee chair with the assistance of the thesis committee.

### Plan B (ePortfolio)

The e-Portfolio provides a program-based assessment to ensure that each student demonstrates mastery of all program learning outcomes for the MLIS degree before graduation. It requires students to select, document, and assemble evidence of their competence in a series of skill areas the faculty have deemed essential for entry-level professional performance.

## Master's Requirements (43 units)

### Core Courses (13 units)

- INFO 200 - Information Communities *3 unit(s) (GWAR)*
- INFO 202 - Information Retrieval System Design *3 unit(s)*
- INFO 203 - Online Learning: Tools and Strategies *1 unit(s)*
- INFO 204 - Information Professions *3 unit(s)*
- INFO 285 - Applied Research Methods *1-4 unit(s)*

### Electives (27 units)

Complete twenty-seven units from:

- INFO 210 - Reference and Information Services *1-3 unit(s) (3 units required)*
- INFO 220 - Resources and Information Services in Professions and Disciplines *1-3 unit(s)*
- INFO 221 - Government Information Sources *3 unit(s)*
- INFO 228 - Advanced Information Resources and Services *3 unit(s)*
- INFO 230 - Issues in Academic Libraries *3 unit(s)*
- INFO 231 - Issues in Special Libraries and Information Centers *3 unit(s)*
- INFO 232 - Issues in Public Libraries *3 unit(s)*
- INFO 233 - School Library Media Centers *3 unit(s)*
- INFO 234 - Intellectual Freedom Seminar *3 unit(s)*
- INFO 237 - School Library Media Materials *3 unit(s)*
- INFO 240 - Information Technology Tools and Applications *3 unit(s)*
- INFO 241 - Automated Library Systems *1-3 unit(s) (3 units required)*
- INFO 242 - Database Design and Management *3 unit(s)*
- INFO 243 - Systems Analysis *3 unit(s)*
- INFO 244 - Online Searching *3 unit(s)*
- INFO 245 - Advanced Online Searching *3 unit(s)*

- INFO 246 - Information Technology Tools and Applications - Advanced 1-3 *unit(s)*
- INFO 247 - Vocabulary Design 3 *unit(s)*
- INFO 248 - Beginning Cataloging and Classification 3 *unit(s)*
- INFO 249 - Advanced Cataloging and Classification 3 *unit(s)*
- INFO 250 - Design and Implementation of Instructional Strategies for Information Professionals 3 *unit(s)*
- INFO 251 - Web Usability 3 *unit(s)*
- INFO 254 - Information Literacy and Learning 3 *unit(s)*
- INFO 256 - Archives and Manuscripts 3 *unit(s)*
- INFO 257 - Records Management 3 *unit(s)*
- INFO 259 - Preservation Management 3 *unit(s)*
- INFO 260 - Resources for Children, Ages 0-6 3 *unit(s)*
- INFO 261 - Resources for Children, Ages 6-12 3 *unit(s)*
- INFO 262 - Resources for Young Adults 3 *unit(s)*
- INFO 263 - Materials for Children 3 *unit(s)*
- INFO 264 - Materials for Tweens 3 *unit(s)*
- INFO 265 - Materials for Young Adults Ages 3 *unit(s)*
- INFO 266 - Collection Management 3 *unit(s)*
- INFO 267 - Services to Youth 1-9 *unit(s)*
- INFO 268 - History of Youth Literature 3 *unit(s)*
- INFO 269 - Early Childhood Literacy 3 *unit(s)*
- INFO 270 - Intellectual Freedom and Youth 3 *unit(s)*
- INFO 271A - Genres and Topics in Youth Literature 1-9 *unit(s)*
- INFO 272 - Authors and Illustrators in Youth Literature 3 *unit(s)*
- INFO 275 - Library Services for Racially and Ethnically Diverse Communities 3 *unit(s)*
- INFO 280 - History of Books and Libraries 3 *unit(s)*
- INFO 281 - Seminar in Contemporary Issues 1-3 *unit(s)*
- INFO 282 - Seminar in Library Management 1-3 *unit(s)*
- INFO 283 - Marketing of Information Products and Services 1-3 *unit(s)* (3 units required)
- INFO 284 - Seminar in Archives and Records Management 1-3 *unit(s)*
- INFO 286 - Interpersonal Communication Skills for Librarians 1-3 *unit(s)*
- INFO 287 - Seminar in Information Science 1-3 *unit(s)*
- INFO 293 - Introduction to Data Networking 3 *unit(s)*
- INFO 294 - Professional Experiences: Internships 2-4 *unit(s)*
- INFO 295 - School Library Field Work 3 *unit(s)*
- INFO 298 - Special Studies 1-3 *unit(s)*

## Culminating Experience (3 units)

### Complete One Option (Plan A Thesis Or Plan B Portfolio):

#### Plan A (Thesis)

- INFO 299 - Thesis 3 *unit(s)*

#### Plan B (Portfolio)

- INFO 289 - Advanced Topics in Library and Information Science 3 *unit(s)*



## Total Units Required (43 units)

Students can transfer up to 9 units subject to the School's transfer policies.

Elective courses must be planned in consultation with the Graduate Advisor

The maximum number of upper-division undergraduate units that can be applied toward the master's degree is 15.

Upon completion of the degree requirements, the student must have achieved minimum candidacy and SJSU cumulative grade point averages of 3.0 in order to graduate.

## Library Information Sciences Post-Masters Certificate

The Post-Master's Certificate program features eight career pathways focused on diverse specializations, such as digital curation, emerging technologies, web programming, data science and more! Certificate program students choose one career pathway and then select five courses from that career pathway, tailoring their in-depth learning experience to their career aspirations. In addition, all students begin the program with a one-unit guided learning experience that introduces our school's interactive online learning environment. After completing 16 units of required coursework, certificate students demonstrate their mastery of the program's learning outcomes.

Gainful Employment Disclosure

## Strategic Management of Digital Assets and Services Certificate (Graduate)

Handling and governance of digital information and data in organizational and networked contexts- including digital assets management, digital curation, information governance, information assurance, data analytics, marketing, community informatics, and demonstrating value. Students pick one career pathway and select 9 units from that pathway, <http://ischool.sjsu.edu/programs/advanced-certificate-strategic-management>

### Digital Assets Management Pathway (9 units)

Students select any 9 units from the following:

- INFO 282 - Seminar in Library Management *1-3 unit(s) (3 units required)*
- INFO 284 - Seminar in Archives and Records Management *1-3 unit(s)*

### Information Governance, Assurance and Security (9 units)

- MARA 284 - Seminar in Archives and Records Management *1-3 unit(s) (6 units required)*
- INFO 287 - Seminar in Information Science *1-3 unit(s) (3 units required)*

### Data Analytics and Data Driven Decision Making (9 units)

Students select any 9 units from the following:

- INFO 246 - Information Technology Tools and Applications - Advanced *1-3 unit(s)*

- INFO 220 - Resources and Information Services in Professions and Disciplines 1-3 *unit(s)*
- INFO 282 - Seminar in Library Management 1-3 *unit(s)*

## Advocacy, Marketing and Community Informatics (9 units)

- INFO 281 - Seminar in Contemporary Issues 1-3 *unit(s)*
- INFO 282 - Seminar in Library Management 1-3 *unit(s)*
- INFO 283 - Marketing of Information Products and Services 1-3 *unit(s)*

## Total Units Required (9 units)

### *INFM 200 - Informatics: Fundamentals*

3 *unit(s)*

A broad perspective and understanding of informatics as a technical skill set that focuses on user-centered systems and balances legal and ethical considerations and measures. Examines informatics applications in specific and interprofessional contexts.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

### *INFM 201 - Informatics: Technology Foundations*

2 *unit(s)*

Analyze and implement web applications using APIs, web frameworks and infrastructure-as-a-service to support web services and web resources.

**Grading:** Graded

### *INFM 202 - Informatics: Security Overview*

1 *unit(s)*

Fundamentals of network security, compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; and cryptography. Students are provided with an opportunity to gain hands-on experience using typical cybersecurity solutions.

**Grading:** Graded

### *INFM 203 - Big Data analytics and Management*

2 *unit(s)*

Overview and use of Important big data technologies, trends, infrastructure, and management issues that enable users to make informed and strategic decisions with the presence of large-scale data sets.

**Grading:** Graded

### *INFM 204 - Human Centered Design*

2 unit(s)

Designing and developing user-centered knowledge structures for the Web environment. Core topics are: problems addressed by effective human-computer interaction; how to design for findability; design thinking concepts and tools; prototyping; and informing stakeholders about a content-rich product.

**Grading:** Graded

*INFM 205 - Informatics: Project Management*

2 unit(s)

Introduces essential strategies and techniques for project management. Topics include: management styles, institutional constraints, project life cycles, stakeholder management, scope definition, risk assessment, project planning tools, and team management.

**Grading:** Graded

*INFM 206 - Electronic Records: Foundations*

3 unit(s)

Principles and methods of managing records and information as operational, legal and historical evidence in electronic environments. Examines the ways in which new information technologies challenge organizations' capacities to define, identify, control, manage, and preserve electronic records and information.

**Grading:** Graded

*INFM 207 - DAM: Digital Assets Management*

2 unit(s)

Concepts, terminology, practice and application of DAM in the private and public sector. Addresses metadata, workflow, taxonomy, data security, governance, and preservation of digital assets.

**Grading:** Graded

*INFM 208 - Information Security: Info Assurance*

1 unit(s)

Overview of Information Assurance and Risk Management theories, principles, and techniques. This course examines the information assurance frameworks and risk management planning structures used to ensure that an organization's information resources and assets are protected

**Grading:** Graded

*INFM 210 - Health Informatics*

3 unit(s)

Health data and standards, electronic health records (EHR) and other healthcare information, data management concerns and technology governance in the health care environment.

**Grading:** Graded

*INFM 211 - Organizational Consulting Project (OCP)*

3 unit(s)

Application of knowledge and skills developed in the Informatics program to address a specific problem in a specific domain (such as health or sports).

**Grading:** Mandatory CR/NC/RP

*INFM 213 - Epidemiological Methods*

3 unit(s)

Introduction to the principles and methods of epidemiologic research. Students are enabled to design, conduct, analyze, and interpret epidemiologic research.

**Grading:** Graded

*INFM 214 - Health Data and Analytics*

3 unit(s)

Exploration of healthcare informatics and its relation to health information technology. Students will apply basic knowledge and skills from healthcare data mining, data science, data management and professional project management to address practical healthcare business and clinical intelligence issues.

**Grading:** Graded

*INFM 215 - Network Security*

3 unit(s)

Technical and administrative aspects of information security and assurance. Includes compliance and operational security, Web application attacks, penetration testing, data loss prevention, cloud computing security, psychological and behavioral traits of users vulnerable to cyber and social engineering attacks, and application programming development security.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*INFM 216 - Computer Digital Forensics*

3 unit(s)

Digital forensic investigation activities. Data acquisition, forensic imaging, use of Forensic Tool Kit (FTK) suite of applications (using Access Data virtual labs), locking mechanisms, search and seizure procedures, and report writing.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*INFM 217 - Tools Lab*

3 unit(s)

Security tools used to detect network security threats and vulnerabilities at a microscopic level. Introduction to penetration testing, packet analyzers, standards and cryptography, reconnaissance and malware, hacking, and vulnerability scanning.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*INFM 218 - Sports Analytics*

3 unit(s)

Analytical techniques and quantitative methods used to inform decisions in the sport industry. Theory, development, and application of analytics in sports to support player performance, in-game strategy, team management, sports operations, and fantasy competitions.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*INFO 20 - Introduction to Computing for Personal Information Management*

3 unit(s)

Introduction to computing for personal information access, use and management including basic computer operations, access to geographically distributed information on the global Internet, electronic communication, word processing and document design, data modeling with spreadsheets, database design and maintenance for information storage and retrieval and information presentation.

**Grading:** Graded

*INFO 200 - Information Communities*

3 unit(s)

Examines information users and the social, cultural, economic, technological, and political forces that shape their information access and use.

*Satisfies GWAR: Graduation Writing Assessment Requirement*

**Prerequisite(s):** Demonstrated computer literacy.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*INFO 202 - Information Retrieval System Design*

3 unit(s)

The systems and knowledge structures that information professionals create and use to connect users with information.

**Prerequisite(s):** Demonstrated computer literacy.

**Grading:** Graded

*INFO 203 - Online Learning: Tools and Strategies*

1 unit(s)

This course introduces students to new and emerging technologies used in today's online learning environment. It covers learning management tools, various social networking platforms, web conferencing, as well as strategies and skills needed for success in online learning.

**Grading:** Credit/No Credit

*INFO 204 - Information Professions*

3 unit(s)

Examines the organizations and environments in which information professionals work.

**Prerequisite(s):** Demonstrated computer literacy.

**Grading:** Graded

*INFO 208 - Big Data Technologies*

3 unit(s)

Introduction to the technological ecosystem of Big Data and Hadoop as well as the goals and work of Data Science.

**Prerequisite(s):** Graduate Standing or instructor consent

**Grading:** Graded

*INFO 209 - Web and Data Mining*

3 unit(s)

Covers topics ranging from data mining, Web mining, classification, numeric prediction, association rules, sequential patterns, Web crawling, retrieval and search engines, social network analysis, link analysis, ranking, Web personalization and recommender systems, to Hadoop based technologies, including MapReduce, Spark, MLlib

**Prerequisite(s):** Basic knowledge of Linux/UNIX programming. Some familiarity with C, C++, and/or Java.

**Grading:** Graded

*INFO 210 - Reference and Information Services*

1-3 unit(s)

Process-oriented examination of how information professionals answer reference questions. Stresses interpersonal skills required for effective question negotiation and sources with which questions are answered.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 211 - Transfer Course One*

3 unit(s)

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** Transfer content for MLIS students who transfer graduate credits. Needs graduate advisor and/or academic advisor approval.

**Grading:** Graded

*INFO 212 - Transfer Course Two*

3 unit(s)

*Misc/Lab: Lecture 2 hours/lab 3 hours.*

**Prerequisite(s):** Transfer Content for MLIS Students who transfer graduate credits. Needs graduate advisor and/or academic advisor approval.

**Grading:** Graded

*INFO 213 - Transfer Course Three*

3 unit(s)

Misc/Lab: Lecture 2 hours/lab 3 hours.

**Prerequisite(s):** Transfer content for MLIS students who transfer graduate credits. Needs graduate advisor and/or academic advisor approval.

**Grading:** Graded

*INFO 215 - Information Visualization*

3 unit(s)

Applying perceptual and cognitive principles to the design and development of information visualization techniques, such as scatterplots, treemaps, parallel coordinates, and GIS visualizations; interactive visualization interface design and implementation; narrative visualization and storytelling; visual analytics for decision making.

**Prerequisite(s):** Graduate Standing or Instructor Consent

**Grading:** Graded

*INFO 220 - Resources and Information Services in Professions and Disciplines*

1-3 unit(s)

Examination of the nature of resources for, and services to, professions and disciplines. Possible disciplines for study may be law, business and economics, life and/or physical sciences, medical sciences, engineering and computer science, maps, and visual and performing arts. Course is repeatable in the same semester for a maximum of nine units when content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** For Business: INFO 202, INFO 204, INFO 210. For Science/Technology: INFO 210. For Visual and Performing Arts: INFO 210.

**Grading:** Graded

*INFO 221 - Government Information Sources*

3 unit(s)

Study in government publications and databases, their bibliographic organization, use in all types of libraries and information centers, methods of acquiring information from federal, state and local sources; problems of depository and non-depository collections.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** INFO 210.

**Grading:** Graded

*INFO 228 - Advanced Information Resources and Services*

3 unit(s)

In-depth survey of information needs, uses, and sources across different user groups; current methods of providing reference services and instruction in different information seeking contexts; and techniques for evaluating reference sources and services.

**Prerequisite(s):** INFO 202 and INFO 210.

**Grading:** Graded

*INFO 229 - Practicum/Seminar in Information Services*

3 unit(s)

Opportunity to work in a setting delivering information services. Discussion of encountered problems, current trends and contemporary approaches to information service delivery.

**Prerequisite(s):** INFO 244 or instructor consent.

**Grading:** Credit/No Credit

*INFO 230 - Issues in Academic Libraries*

3 unit(s)

Investigate current issues that impact the functioning of the academic library. Topics include issues related to social and political environments, clientele, services, collections, physical settings, financing, staffing and future trends in the academic library sector.

**Prerequisite(s):** INFO 200, INFO 202 and INFO 204.

**Grading:** Graded

*INFO 231 - Issues in Special Libraries and Information Centers*

3 unit(s)

This course will investigate current issues that impact the functioning of special libraries/information centers. Topics covered will include issues related to social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the special library/information center sector.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 232 - Issues in Public Libraries*

3 unit(s)

This course will investigate current issues that impact the functioning of the public library. Topics covered will include issues related to social and political environments, clientele, services, collections, physical settings, financing and staffing, and future trends in the public library sector.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 233 - School Library Media Centers*

3 unit(s)

The role of the school library media teacher and the school library media program in the educational community. Emphasis on creation of effective learning environments, involvement in the curriculum and teaching process as well as philosophies of service and management.

**Prerequisite(s):** INFO 204 and INFO 250.

**Grading:** Graded



*INFO 234 - Intellectual Freedom Seminar*

3 unit(s)

Focuses on current intellectual freedom issues and the centrality of intellectual freedom to librarianship.

**Prerequisite(s):** INFO 200, INFO 204.

**Grading:** Graded

*INFO 237 - School Library Media Materials*

3 unit(s)

Survey of materials in a variety of formats that meet the needs of K12 students. Materials will be examined that support state and national curriculum standards as well as material that support independent reading and learning. Course can be repeated one time.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 203, INFO 204

**Grading:** Graded

*INFO 240 - Information Technology Tools and Applications*

3 unit(s)

Focuses on building practical skills in a variety of networked computer applications. Topics will vary, but will typically include web coding languages and designing web sites.

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 241 - Automated Library Systems*

1-3 unit(s)

Review of major systems for library automation. Problems associated with the planning, implementation and use of the systems, negotiation of systems acquisition and trends in the field.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** INFO 200, INFO 202 and INFO 204. Not available to Open University Students.

**Grading:** Graded

*INFO 242 - Database Design and Management*

3 unit(s)

Design and implementation of relational databases. Learn about database management systems (such as Oracle), database administration, and database querying with SQL.

**Prerequisite(s):** INFO 202. Not available to Open University Students.

**Grading:** Graded

*INFO 243 - Systems Analysis*

3 unit(s)

Study of systems as applied to libraries and information centers. Application of methods for studying the means by which libraries deliver information services to users.

**Prerequisite(s):** INFO 200, INFO 202 and INFO 204. Not available to Open University Students.

**Grading:** Graded

*INFO 244 - Online Searching*

3 unit(s)

Techniques and concepts for searching online, including strategies, database content, search options, and understanding the information environment. The course includes extensive hands-on experience with subscription search engines.

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 245 - Advanced Online Searching*

3 unit(s)

Emphasis is on on-line techniques for developing current awareness services.

**Prerequisite(s):** INFO 244.

**Grading:** Graded

*INFO 246 - Information Technology Tools and Applications - Advanced*

1-3 unit(s)

Designing advanced Web applications using technology such as dynamic HTML and XML and Web programming languages such as XSLT, JavaScript, JSP, Perl, PHP, MYSQL, and ASP. May be repeated for up to 12 units when content changes.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 247 - Vocabulary Design*

3 unit(s)

Survey of principles and practices used to index information-bearing objects such as documents or images. Includes term assignment, review of existing vocabularies, thesaurus design, metadata structures and automatic and natural language processes.

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 248 - Beginning Cataloging and Classification*

3 unit(s)

Theory and practice of bibliographic control including the study of representative cataloging using AACR2, machine-based representation using MARC formats and other standards, subject analysis and classification using LCSH.

Dewey, and LCC with application to books, non-book materials and serials.

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 249 - Advanced Cataloging and Classification*

*3 unit(s)*

Application of cataloging and organization of information principles to multi- and hyper-media resources. Complex serial publications, evolving standards for representation of non-traditional networked information, and cataloging policy development. Specific focus of the course may vary each time taught.

**Prerequisite(s):** INFO 202, INFO 248.

**Grading:** Graded

*INFO 250 - Design and Implementation of Instructional Strategies for Information Professionals*

*3 unit(s)*

Examination of concepts of instruction in the use of information technologies, information services and sources. Includes investigation of learning theory and instructional design. Emphasis on application of theory through development of instruction and instructional resources in various media for use in a broad array of institutional environments.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** INFO 200. Not available to Open University Students.

**Grading:** Graded

*INFO 251 - Web Usability*

*3 unit(s)*

Through examination of theory, methodologies, and real-life cases, Info 251 offers a user experience (UX) framework for developing information systems. Students learn the principles of user-centric design and style for particular circumstances and populations.

**Prerequisite(s):** INFO 202.

**Grading:** Graded

*INFO 252A - Information Processing and Management I*

*3 unit(s)*

An introduction to programming in the Java programming language. Emphasis on techniques necessary for manipulating character strings, sorting and searching algorithms frequently used for information storage and retrieval problems, and fundamental concepts of modern software engineering.

**Prerequisite(s):** Computer Literacy.

**Grading:** Graded

*INFO 252B - Information Processing and Management II*

*3 unit(s)*

Introduction to Object-Oriented Programming (OOP) and Object-Oriented Database Design (OODB) in the Java

programming language. Emphasis is on how to apply these concepts and techniques to problem solving in the field of information storage and retrieval.

**Prerequisite(s):** INFO 252A or instructor consent.

**Grading:** Graded

*INFO 253 - Natural Language Processing and Automatic Indexing/Abstracting*

3 unit(s)

Introduction to natural language processing and automatic indexing/abstracting with emphasis on text processing. Topics include: semantic dictionary, lexical analysis, word frequency analysis and automatic selection of indexing tokens, term weighting, the vector space model and document representation.

**Prerequisite(s):** INFO 252B or instructor consent.

**Grading:** Graded

*INFO 254 - Information Literacy and Learning*

3 unit(s)

Provides theory and practice for teaching information literacy in an LIS setting. The course emphasizes learning theory as well as the practical aspects of teaching. Students learn methods and tools for teaching in both synchronous and asynchronous settings.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 256 - Archives and Manuscripts*

3 unit(s)

An introduction to the theory and practice of managing archival documents, such as personal papers, institutional records, photographs, electronic records and other unpublished material. Topics covered include manuscript and records acquisition and appraisal, arrangement and description, conservation and preservation, reference and access.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 257 - Records Management*

3 unit(s)

An introduction to the theories, methodologies and technologies used in managing institutional information and records. Topics include the history of records management, the records' life cycle, record inventory and analysis, classification and filing, retention scheduling and equipment.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 259 - Preservation Management*

3 unit(s)

An introduction to the philosophies and techniques used to preserve manuscript, printed and digital materials. Examination of the evolution of preservation practice, with emphasis on emerging theories, models and technologies

in digital preservation.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 260 - Resources for Children, Ages 0-6*

*3 unit(s)*

Survey of children's materials for infants to age six, with emphasis on books for beginning readers, integration of this material into library and school programs, planning and implementation of public relations. Repeatable for credit. Repeatable for credit when content changes.

**Grading:** Graded

*INFO 260A - Programming and Services for Children Ages 0-8*

*3 unit(s)*

This course examines the importance of programming for children, including parent education programs, story hours, outreach techniques, services with schools, summer reading programs, and program series such as weekly or monthly programs on manga, knitting, book discussions, or homework help.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 261 - Resources for Children, Ages 6-12*

*3 unit(s)*

A survey of the books and media available for children 6-12, and of the evaluation, selection, and use of these materials in the contexts of collection development, children's reading interests, informational needs, school curricula, and multicultural library service. Repeatable for credit. Repeatable for credit when content changes.

**Grading:** Graded

*INFO 261A - Programming and Services for Young Adults Ages 9-18*

*3 unit(s)*

Administration and delivery of professional library and information services with multi-cultural young adult populations: features critical youth studies cultural/historical research, resources, policy, threats, tools, methods, service philosophies and management skills necessary for a comprehensive profile of YA library services.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 262 - Resources for Young Adults*

*3 unit(s)*

Materials for adolescents and pre-adolescents and methods for incorporating these materials into library planning. Collection development, needs assessment and programming will be featured. Information services for young adults in a variety of settings will also be addressed. Repeatable for credit. Repeatable for credit when content changes.

**Grading:** Graded

*INFO 262A - Materials for Children Ages 0-4*

3 unit(s)

Survey of children's materials , including "toy" books, picture books, and various media and technology appropriate for this age group, and how they can meet developmental needs. Collection development tools and techniques for these materials will also be included.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 263 - Materials for Children*

3 unit(s)

Survey of materials in a variety of formats including nonfiction, beginning chapter books, fictional genres, paperback series and electronic resources, and how they can help meet developmental needs. Collection development tools and techniques for this material will also be included.

**Prerequisite(s):** INFO 200, and either INFO 260A or INFO 261A

**Grading:** Graded

*INFO 264 - Materials for Tweens*

3 unit(s)

Survey of materials in various formats including fiction, nonfiction, movies, CDS, computer games and other materials, and how they can meet the developmental needs of this age group. Collection development tools and techniques for this material will also be included.

**Prerequisite(s):** INFO 200, and either INFO 260A or INFO 261A

**Grading:** Graded

*INFO 265 - Materials for Young Adults Ages*

3 unit(s)

This course will allow students to take an in depth look at materials in a variety of formats for teens, including fiction, popular nonfiction, graphic novels, movies, computer games, websites, other media, and determine how they can meet developmental needs.

**Prerequisite(s):** INFO 200, and either INFO 260A or INFO 261A

**Grading:** Graded

*INFO 266 - Collection Management*

3 unit(s)

Study of collection management in all types of libraries and information centers. Includes analysis of information needs, criteria for selection, collection use evaluation and resources for collection development.

**Prerequisite(s):** INFO 202, INFO 204.

**Grading:** Graded

*INFO 267 - Services to Youth*

1-9 unit(s)

Seminar in planning, developing and evaluating youth services in public libraries. Special needs of children and young adults in the public library, liaison with schools, reference services, and collection planning will be featured. Repeatable for credit, for up to 9 units. Repeatable for credit when content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** INFO 200, and either INFO 260A or INFO 261A

**Grading:** Graded

*INFO 268 - History of Youth Literature*

3 unit(s)

The history of literature for children and teens from its earliest examples to today's current trends, including how childhood has changed over the years, the influence of culture on those changes, and on the materials created for children and teens.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 269 - Early Childhood Literacy*

3 unit(s)

Covers a wide variety of topics important for an understanding of early childhood multi-literacies in library and non-library environments, including current research, best practices and practical examples that can be implemented in various work environments with children.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 270 - Intellectual Freedom and Youth*

3 unit(s)

This course will focus on intellectual freedom issues with youth, the value of youth literature to enhance individuals' lives, the ethics of intellectual freedom, the psychology of censorship and how to combat it, and how to defend materials for youth.

**Grading:** Graded

*INFO 271A - Genres and Topics in Youth Literature*

1-9 unit(s)

Various topics and genres in literature for children or teens will be examined in depth, such as graphic novels, poetry, fantasy, science fiction, publishing and writing trends, reading motivation techniques, literature in the classroom, and the art of picture books. Repeatable for up to 9 units.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** INFO 200, and either INFO 260A or INFO 261A

**Grading:** Graded

*INFO 272 - Authors and Illustrators in Youth Literature*

3 unit(s)

This course will look at selected authors and/or illustrators of youth literature, examining their work, their lives, their motivations, their criticism, and the usefulness of their work.

*Course may be repeated for credit for up to 9 units.*

**Grading:** Graded

*INFO 275 - Library Services for Racially and Ethnically Diverse Communities*

3 unit(s)

This course focuses on developing skills for planning, implementing and evaluating programs for addressing the information needs of racially, ethnically and linguistically diverse communities. Reviews the major national, state and local studies.

**Prerequisite(s):** INFO 200 and INFO 204. Not available to Open University Students.

**Grading:** Graded

*INFO 280 - History of Books and Libraries*

3 unit(s)

This class traces the development of the book through its many stages and explores how the creation, use, and storage of information are affected by social and technological change. The development of libraries and librarianship and how they have accommodated themselves to the changing form of the book will also be considered.

**Prerequisite(s):** INFO 200

**Grading:** Graded

*INFO 281 - Seminar in Contemporary Issues*

1-3 unit(s)

Investigation of major contemporary issues within the information profession. Topics range from censorship to the need for a national information policy and change each time the course is offered. A maximum of nine units may be repeated in the same semester when content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Graded

*INFO 282 - Seminar in Library Management*

1-3 unit(s)

Application of management theory to specific problems. Readings and discussions of the development of effective strategies for planning and implementing organizational change. Content changes each time offered. A maximum of nine units may be repeated in the same semester when content changes.

*Course may be repeated for credit for up to 9 units.*

**Prerequisite(s):** INFO 200 and INFO 204. Not available to Open University Students.

**Grading:** Graded



*INFO 283 - Marketing of Information Products and Services*

1-3 unit(s)

Applications of marketing concepts to library and information services. Market analysis, use surveys, market targeting and introduction of services.

**Prerequisite(s):** INFO 200 and INFO 204. Not available to Open University Students.

**Grading:** Graded

*INFO 284 - Seminar in Archives and Records Management*

1-3 unit(s)

In-depth study of current issues and practices in archives and records management. The course addresses new areas of research and application such as oral history, sound and visual archives, digitization, archival automation, archival security, genealogy, and more. Course is repeatable for credit for up to 12 units.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204

**Grading:** Graded

*INFO 285 - Applied Research Methods*

1-4 unit(s)

Selection, formulation and development of problems in library and information science research. Evaluation of published research and in the field.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204

**Grading:** Graded

*INFO 286 - Interpersonal Communication Skills for Librarians*

1-3 unit(s)

The principles and practice of interpersonal communication; small group and peer relationships.

*Course may be repeated for credit for up to 3 units.*

**Prerequisite(s):** INFO 200 and INFO 204. Not available to Open University Students.

**Grading:** Graded

*INFO 287 - Seminar in Information Science*

1-3 unit(s)

Current issues and problems in information retrieval as related to concepts and theories of information science. A maximum of nine units may be repeated with different content.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** INFO 200. Not available to Open University Students.

**Grading:** Graded

*INFO 289 - Advanced Topics in Library and Information Science*

3 unit(s)

Advanced independent examination of selected issues and problems in library and information science with a focus on the integration of theory and practice. Issues and problems addressed will vary each semester.

**Grading:** Mandatory CR/NC/RP

*INFO 292 - Professional Experience: Projects*

3 unit(s)

Gives students the opportunity to complete a professional project related to the theory and method of Library & Information Science in an information organization or institution, and to gain practical experience in one or more areas of LIS.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204, plus six advanced courses.

**Grading:** Credit/No Credit

*INFO 293 - Introduction to Data Networking*

3 unit(s)

An introduction to computer networking in both Lan and Wan environments with an emphasis on hands-on projects.

**Prerequisite(s):** INFO 200, INFO 202, INFO 204. INFO 240 desirable.

**Grading:** Graded

*INFO 294 - Professional Experiences: Internships*

2-4 unit(s)

Supervised professional experience in an approved public, academic, or special library or other information-based organization.

*Course may be repeated for credit for up to 8 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204, and three advanced courses.

**Grading:** Credit/No Credit

*INFO 295 - School Library Field Work*

3 unit(s)

A supervised professional experience of school librarianship at the levels of both elementary and secondary (middle or high) schools. Emphasis is on observation and guided practice with a credentialed school librarian (library media teacher).

**Prerequisite(s):** INFO 200, INFO 202, INFO 204.

**Grading:** Credit/No Credit

*INFO 297 - Practicum in Instruction for Information Literacy*

3 unit(s)

Experience with instruction in the computer, network and media aspects of information literacy. Course may be repeated in different semester.

**Grading:** Credit/No Credit

*INFO 298 - Special Studies*

1-3 unit(s)

Advanced individual research and projects related to libraries and information systems. Available only to those students who have completed the major portion of the degree coursework. May be repeated for a maximum of six units of credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204, instructor consent.

**Grading:** Mandatory CR/NC/RP

*INFO 299 - Thesis*

3 unit(s)

Approved thesis proposal and consent of a faculty advisor required. May be repeated for a maximum of six units of credit.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** INFO 200, INFO 202, INFO 204, INFO 285.

**Grading:** Mandatory CR/NC/RP

*INFO 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis.

*Course may be repeated for credit for up to 16 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a thesis class

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*MARA 200 - Record and Recordkeeping Professions*

3 unit(s)

Overview of the management and role of records and information in business, society and history.

*Satisfies GWAR: Graduation Writing Assessment Requirement.*

*Course is not repeatable.*

**Prerequisite(s):** Demonstrated computer literacy through completion of required new student online technology workshop.

**Grading:** Graded

**Note(s):** This course satisfies graduate-level GWAR in this master's program.

*MARA 204 - Management of Archives, Records, Inf. Governance*

3 unit(s)

Overview of management and leadership roles and responsibilities in archives, records management, and information governance settings, and application of management principles, techniques and theories to program administration.

**Prerequisite(s):** Demonstrated computer literacy through completion of required new student online technology workshop.

**Grading:** Graded

*MARA 210 - Records Creation, Appraisal, and Retention*

3 unit(s)

Overview of records creation and management processes and documentation of those processes. Topics include electronic records content management, digitization, physical records document control, legal compliance.

**Prerequisite(s):** MARA 200.

**Grading:** Graded

*MARA 211 - Access, Storage and Retrieval of Records*

3 unit(s)

Overview of archival and contemporary records and information access, storage and retrieval. Examines records and information classification retrieval systems, storage operations, archival reference service and outreach, legal and ethical access considerations, and user communities.

*Course is not repeatable.*

**Prerequisite(s):** MARA 200 and MARA 204.

**Grading:** Graded

*MARA 249 - Management of Digital Data, Information, Records*

3 unit(s)

Principles and methods of managing data, information and records as operational, legal and historical evidence in digital environments. Examines the way in which new information technologies impact an organizations' capacity to define, identify, control, manage, and preserve digital assets.

*Course is not repeatable.*

**Prerequisite(s):** MARA 200 and MARA 204.

**Grading:** Graded

*MARA 256 - 21st Century Archival Methods*

3 unit(s)

Archival science and archival methods as presently practiced in archival repositories. Types of archival repositories. Influence of other disciplines on archives and vice versa. Focus on technological changes and their effects on traditional archival records, systems, methodologies.

*Course is not repeatable.*

**Prerequisite(s):** MARA 200.

**Grading:** Graded

*MARA 283 - Enterprise Content Management and Digital Preservation*

*3 unit(s)*

Presents theoretical principles and practical aspects of digital content management and preservation. Explores challenges related to multiple file formats, standards, and retention requirements. Provides hands-on experience using both a digital content management system and a trusted digital repository.

**Prerequisite(s):** MARA 210, or MARA 211, or MARA 249

**Grading:** Graded

*MARA 284 - Seminar in Archives and Records Management*

*1-3 unit(s)*

This course explores current issues and practices in archives and records management such as Protecting Conflicting Rights in the Digital Environment, Archivist: Meet Web 2.0, Ethics and Computer Forensics, and Implications of Cloud Computing on Records Management.

*Course is repeatable for up to 12 units.*

**Prerequisite(s):** MARA 200 and MARA 204.

**Grading:** Graded

*MARA 285 - Research Methods in Records Management and Archival Science*

*3 unit(s)*

Overview of research methods in the social sciences and their application to research about and within archives and records centers. Research design, human subjects, quantitative and qualitative methods, model studies, methodological critique and evaluation, data analysis and presentation. Not repeatable.

**Grading:** Graded

*MARA 289 - Advanced Topics in Archives and Records Administration (ePortfolio)*

*1-3 unit(s)*

Completion of the ePortfolio, integrating theory and practice, to satisfy the Culminating Experience, with the portfolio based on core competencies for archives and records administration professionals as outlined in the MARA 289 Handbook. Completed in final semester. Not repeatable.

*Course may be repeated for credit for up to 12 units.*

**Prerequisite(s):** See information about eligibility by looking at the current MARA 289 Handbook and revising the section on "Eligibility".

**Grading:** Credit/No Credit

*MARA 292 - Professional Certification*

*3 unit(s)*

Through consultation with advisor: preparation exercises, mock exams, information, work experience and registration guidance toward application, submission and completion (completion not required) of ICRM and/or ACA exams for

professional certification(s) in archives and records administration. Not repeatable.

**Prerequisite(s):** MARA 200, MARA 202, MARA 204, plus six advanced courses.

**Grading:** Credit/No Credit

*MARA 293 - Professional Experience: Projects*

*3 unit(s)*

Professional projects submitted by an individual or organization, supervised by a professional archivist or records manager, which can be completed during one semester.

**Prerequisite(s):** MARA 200, MARA 204

**Grading:** Credit/No Credit

*MARA 294 - Professional Experience*

*3 unit(s)*

Completion of an internship assignment or an organizational consulting project, or a special project related to the field of archives, records management and/or information governance. Repeatable for up to 6 units of credit.

*Course is repeatable for up to 6 units.*

**Prerequisite(s):** MARA 200 and MARA 204.

**Grading:** Credit / No Credit

*MARA 295 - Organizational Consulting Project (OCP)*

*3 unit(s)*

Organizational Consulting Projects are submitted by an individual or organization, supervised by a professional archivist or records manager, and requires the application of the knowledge and skills developed throughout the program. Repeatable for up to 6 units.

*Course may be repeated for credit for up to 6 units.*

**Prerequisite(s):** MARA 200, MARA 204

**Grading:** Credit/No Credit

# Undergraduate Education

**Office:** Administration Building, 159

**Telephone:** 408-924-2447

**Website:** Undergraduate Education

**Email:** undergraduate-education@sjsu.edu

## Professors

Thalia Anagnos, Vice Provost for Undergraduate Education (Civil Engineering)  
Melinda Jackson, Associate Dean of Undergraduate Education (Political Science)

## Overview

Undergraduate Education (UE) is involved with all aspects of undergraduate academic matters which support retention and graduation of students. It includes the following areas and programs: Academic Preparation Programs, Academic Scheduling, Accreditation, Articulation, Assessment, Campus Reading Program, Center for Community Learning and Leadership, CommUniverCity, General Education, Program Planning, Catalog, Curriculum, MyProgress, and MyPlanner.

The courses offered by UE under the subject University Studies (UNVS) promote leadership, integrated and applied interdisciplinary academic experiences for students. The office also sponsors undergraduate degrees as a Special Major, which is an individually designed course of study leading to a BA or BS degree. The Special Major is designed for situations in which an existing university-level SJSU undergraduate degree major does not adequately accommodate academic professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

## Undergraduate

### Special Major, BA

The Office of Undergraduate Education sponsors undergraduate degrees as a Special Major, BA. The Special Major is designed for situations in which an existing SJSU undergraduate degree major does not adequately accommodate academic professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

The Special Major is an individually designed, interdisciplinary course of study leading to a BA that gives a student who has a specific educational objective the opportunity to accomplish that goal. It is not to be used to bypass normal graduation requirements or projected programs of the University, nor to substitute for a major in which a student is having academic difficulty.

### Program Learning Outcomes

The proposed course of study must be a coherent program organized around an academic theme. Students who complete a Special Major shall be able to demonstrate: "the ability to analyze an issue or problem, integrating at least two disciplinary perspectives." In addition, students identify two or more student learning outcomes related to their specific areas of study in consultation with a major faculty advisor. They demonstrate their attainment of the learning outcomes through a portfolio or senior project completed in a capstone course.

### Eligibility Requirements

Applicants must have both a cumulative and SJSU GPA of at least 2.75, at least sixty units earned (upper division standing), and at least one year of academic work still to be completed to meet minimum degree requirements. Special Majors are considered on a case-by-case basis. Approval is based on the academic merit of the proposed course of study, the applicant's proposed rationale and potential for successful completion of the program, and the ability of the university to support the proposed program. Students apply for consideration for the Special Major through the Office of Undergraduate Education.

### General Education/American Institution Requirements

Courses that meet General Education/American Institution requirements are noted with area designation for required area. For legend please see General Education Attributes.

## University Requirements (53 units)

### Core Lower Division General Education (39 units)

Courses that meet GE Areas A1, A2, A3 or B4 must be passed with a "C-" or better to meet the requirement. Consult with major advisor for details.

### Upper Division General Education (9 units)

### American Institutions (6 units)

The 6 units of American Institutions (US123) coursework shown below also fulfills GE Areas D2 and D3. Other courses meet the American Institutions requirement, but may not include additional GE areas. The American Studies (AMS 1A/AMS 1B) and Humanities Honors (HUM 1A/HUM 1B/HUM 2A/HUM 2B) programs both offer larger integrated packages that meet this requirement. Consult with major advisor for details.

#### Complete One Sequence From:

### African American Studies (6 units)

- AFAM 2A - African Americans and the Development of America's History and Government 3 *unit(s)* (D2)
- AFAM 2B - African Americans and the Development of America's History and Government 3 *unit(s)* (D3+US123)

### Asian American Studies (6 units)

- AAS 33A - Asian Americans in U.S. History I 3 *unit(s)* (D2)
- AAS 33B - Asian Americans in U.S. History II 3 *unit(s)* (D3+US123)

### Chicana and Chicano Studies (6 units)



- CCS 10A - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D2)
- CCS 10B - Mexican Americans and the Development of U.S. History and Government 3 *unit(s)* (D3+US123)

## U.S. History and Government (6 units)

- HIST 15 - Essentials of U.S. History 3 *unit(s)* (D2+US1)
- POLS 15 - Essentials of U.S. & California Government 3 *unit(s)* (D3+US23)

## Physical Education (2 units)

## Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

*A grade of C or better (C- not accepted) is required to meet graduation requirement.*

## Major Requirements (40 units minimum)

1. Students must formally request admission to a Special Major program through the Office of Undergraduate Education.
2. The student must cite academic and professional objectives and describe the nature of the proposed major. The student must have at least one year of academic work still to be completed to meet the minimum degree requirements.
3. Courses used to meet General Education Requirements may not be applied to the major, nor may any courses in the major field be used for GE.
4. Students must self-identify any disabilities for which reasonable accommodations are necessary to complete the proposed degree program
5. The student must have both cumulative and an SJSU GPA of at least 2.75.

## Procedures

Before, during, and after the initial consultation with the Associate Dean for Undergraduate Education, student must complete the following:

1. A written reflective statement that includes:
  1. description of the proposed major;
  2. discussion of why existing majors are not suitable;
  3. a reflection on what it means to the student to be an "educated person" and how this special major will help the student to become one;
  4. description of any disabilities that may require accommodations (if applicable);
  5. academic, professional, and personal objectives; and,
  6. how does your Special Major help you to meet your academic, professional, and personal objectives?
2. A major course of study plan that includes:
  1. 40-45 total units in the major;
  2. 24 units in residence at SJSU; and,
  3. 30-40 units in upper division.

3. Student must meet with department advisor(s) and have a suggested major advisor (Undergraduate Education does not assign advisors, students pick major advisor).
  1. Completion of the major course of study plan in consultation with the suggested major advisor and other departments involved in the program;
  2. Preparation of the Special Major worksheet and evaluation of General Education and graduation requirements in consultation with the Associate Dean for Undergraduate Education. Approval of Special Major Worksheet; and,
  3. Approval of modifications in Course of Study by Associate Dean for Undergraduate Education.
4. If Special Major is approved, students must complete the following:
  1. A Change of Major Form;
  2. Major Form (will be completed between the student, department advisor(s), and Associate Dean for Undergraduate Education);
  3. Application for Graduation; and,
  4. Forms must be completed and submitted at least 1 year prior to graduation.

Diploma and transcript will contain the title (Special Major) followed by the exact title of the major listed in the Major Form.

## Special Major, BS

The Office of Undergraduate Education sponsors undergraduate degrees as a Special Major, BS. The Special Major is designed for situations in which an existing SJSU undergraduate degree major does not adequately accommodate academic professional aims. Students who complete a Special Major shall be able to demonstrate the characteristics of "intentional learners" who can adapt to new environments, integrate knowledge from different sources, and continue learning throughout their life.

The Special Major is an individually designed, interdisciplinary course of study leading to a BS that gives a student who has a specific educational objective the opportunity to accomplish that goal. It is not to be used to bypass normal graduation requirements or projected programs of the University, nor to substitute for a major in which a student is having academic difficulty.

### Program Learning Outcomes

The proposed course of study must be a coherent program organized around an academic theme. Students who complete a Special Major shall be able to demonstrate: "the ability to analyze an issue or problem, integrating at least two disciplinary perspectives." In addition, students identify two or more student learning outcomes related to their specific areas of study in consultation with a major faculty advisor. They demonstrate their attainment of the learning outcomes through a portfolio or senior project completed in a capstone course.

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### Graduation Writing Assessment Requirement

At SJSU, students must pass both the SJSU Writing Skills Test (WST) and a 100W course. Exceptions to the GVAR may be found at Graduation Writing Assessment Requirement (GVAR).

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  1. Completion of the major course of study plan in consultation with the suggested major advisor and other departments involved in the program;
  2. Preparation of the Special Major worksheet and evaluation of General Education and graduation requirements in consultation with the Associate Dean for Undergraduate Education. Approval of Special Major Worksheet; and,
  3. Approval of modifications in Course of Study by Associate Dean for Undergraduate Education.
4. If Special Major is approved, students must complete the following:
  1. A Change of Major Form;
  2. Major Form (will be completed between the student, department advisor(s), and Associate Dean for Undergraduate Education);
  3. Application for Graduation;
  4. Forms must be completed and submitted at least 1 year prior to graduation.

Diploma and transcript will contain the title (Special Major) followed by the exact title of the major listed in the Major Form.

*ESE 1001 - Introduction-College Reading and Composition*

1-2 unit(s)

This rhetoric-based course introduces students to the demands of college-level expository, analytical, and argumentative reading and writing. Students will study the relationships between authorial purpose, structure, and intended audience; types and use of evidence; the impact of rhetorical strategies; and the social, political, and philosophical assumptions that underlie the text. Students will receive feedback on their writing in every class. Full attendance and participation satisfies the Early Start requirement in English. An end of course analytical essay may be used to improve freshman English placement for SJSU students.

**Prerequisite(s):** Writing enrollment category W-III or W-IV and Undergraduate Transitory (UGT) program.

**Grading:** Early Start Program English

**Note(s):** No Degree Credit

*ESE 1003 - Introduction to Analytical Writing*

1 unit(s)

Students will submit an analytical essay on an assigned topic, master a rubric for evaluating analytical writing, peer review essays written by classmates, and then reevaluate their own writing. All deadlines must be strictly adhered to. Online course.

**Prerequisite(s):** Writing enrollment category W-III or W-IV and Undergraduate Transitory (UGT) program.

**Grading:** Early Start Program English

**Note(s):** No Degree Credit

*ESM 1001 - ES Elementary Algebra Review*

1-2 unit(s)

Review topics from elementary algebra, including basic mathematics skills, real numbers and variables, exponents and radicals, polynomials and rational expressions, linear equations and inequalities (including their graphs), systems of linear equations, quadratic equations, and functions. This live class will be taught in an online environment. Full attendance and participation satisfies the Early Start requirement in mathematics. The final exam and an optional ELM retest may be used to improve freshman mathematics placement and in some cases may satisfy the ELM requirement.

**Prerequisite(s):** Math enrollment category M-III or M-IV AND Undergraduate Transitory (UGT) program.

**Grading:** Early Start Program Math

**Note(s):** No Degree Credit

*ESM 1005 - Topics in Elementary Algebra*

1 unit(s)

This course reviews topics from elementary algebra using an online tool called ALEKS. To fulfill the Early Start requirement, students must spend at least 15 hours using ALEKS. This course may not be used to improve freshman mathematics placement.

**Prerequisite(s):** Math enrollment category M-III or M-IV AND Undergraduate Transitory (UGT) program.

**Grading:** Early Start Program Math

**Note(s):** No Degree Credit

*UNVS 15F - Statway Part A: Statistics-Concepts & Methods*

3 unit(s)

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Must complete UNVS 15F/UNVS 15S sequence to satisfy GE Area B4.

*Misc/Lab: Lecture 1 hour / Activity 4 hours*

**Grading:** Graded

*UNVS 15S - Statway Part B: Statistics-Concepts & Methods*

3 unit(s)

Concepts and methods of statistics with an emphasis on data analysis. Topics include methods for collecting data graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis test for means and proportions, and chi-square tests. Completion with a grade of C- or better satisfies the GE Area B4 Mathematical Concepts requirement.

*Lecture 1 hour / Activity 4 hours*

*Satisfies B4: Mathematical Concepts*

**Prerequisite(s):** UNVS 15F with a grade of C- or better or concurrent enrollment in UNVS 1015W.

**Grading:** Graded

*UNVS 57 - Community Involvement and Personal Growth*

3 unit(s)

Human development in community context, with an emphasis on civic responsibility. The influence of community engagement on individual physiological, social/cultural, and psychological well-being. Participation in a service-learning project in a multicultural organization.

*Satisfies E: Human Understanding & Development.*

**Grading:** Graded

*UNVS 75 - Fundamentals of Leadership and Career Accelerator*

3 unit(s)

This course is a foundational course designed to begin preparing students in their sophomore year or first year of transfer to SJSU to practice the leadership habits of mind and workplace skills needed to thrive in 21st century workplaces once they graduate from school. Given the increasingly competitive, and globalized job marketplace, this course enables participants to cycle through rounds of interactive experiences and practice to acquire "hard" and "soft" skills needed to succeed. Students will apply these skills in real-life leadership situations and build meaningful networks of peers and adults, all while activating their personal assets and deepening their sense of self and community.

*Misc/Lab: 2 hours lecture/ 2 hours lab*

**Prerequisite(s):** ENGL 1A

**Grading:** Graded

*UNVS 90 - Leadership in Residential Life*

3 unit(s)

Class is designed for students selected by University Housing Services to serve as leaders in the residence halls. Students will receive an introduction to residential education, student development theory, conflict mediation, community development, and leadership as well as training in university policies and procedures. Classroom learning will be integrated with on the job experience.

**Prerequisite(s):** Current application or employment with University Housing Services.

**Grading:** ABC-/NC Grading

*UNVS 92 - International Program Studies*

1-6 unit(s)

**Grading:** Mixed Grading

*UNVS 95 - Special Topics in Student Leadership Development*

1 unit(s)

University 95 is for students selected as staff for San Jose State University's Summer Transition Programs (e.g., Summer Bridge Resident Assistants and Academic Coaches and Spartan Scholars Program Community Assistants and Academic Coaches). Through a series of lectures, project-based activities, and required readings, students will explore both theoretical and practical elements of leadership.

*Course may be repeated for credit for up to 3 units.*

**Grading:** Graded

*UNVS 95A - Service Learning for Academic Leaders*

2 unit(s)

Course enhances student success in college through basic and leadership skills development, pertinent academic information, and strategies for achieving personal and academic goals.

**Grading:** Graded

*UNVS 95B - First Year Experience- Academic Success*

1-2 unit(s)

University 95 is a series of lectures, project-based activities, and required readings to promote academic success. This course introduces students to university faculty, campus administrators, and campus resources. It also provides students with a wide range of information regarding various institutional academic expectations, university policies and procedures, and practical study skills to prepare them for the successful completion of courses at SJSU.

**Grading:** Graded

*UNVS 95V - Warriors at Home: Success in College and Life*

3 unit(s)

This course will assist veteran/military students in making positive transitions from military to civilian life or from deployment to post-deployment life. It provides essential tools to navigate the university, succeed in academics and interpersonal relationships, and develop a career plan.

**Grading:** Graded

*UNVS 96D - Academic Skill Development*

1 unit(s)

**Grading:** CR/NC, No Degree Credit

*UNVS 96E - Leadership and Creating Change*

3 unit(s)

This course will introduce students to conceptual and theoretical dimensions of leading, following, and creating social change. We will be particularly interested in connecting the social construction of identities with the idea of leadership as a form of social influence. This will include an examination of issues of power, privilege, marginalization, inclusion, and social and group behavior. Students will explore literature, case examples and applications in the form of community service-learning to build their understanding of, and capacity for serving as ethical and effective community leaders, advocates and allies.

**Grading:** Graded

*UNVS 101 - Leadership and Career Accelerator*

3 unit(s)

Prepares students for the increasingly competitive, globalized job marketplace. Through online, peer learning, interactive experiences, and reflection, students build meaningful networks, discover their innate leadership, and cultivate the hard" and "soft" skills and habits of mind needed to thrive in twenty-first century workplaces and make positive impact through their careers upon graduation. Aimed at students in their sophomore or junior year or first year of transfer, though all students of all majors can participate.

*Lecture 2 hours/Activity 2 hours.*

**Prerequisite(s):** ENGL 1A or ENGL 1AS with a grade of "C-" or better or complete GE Area A2 with a grade of "C-" or better.

**Grading:** Graded

*UNVS 120 - Peer Mentor*

3 unit(s)

Seminar course intended to provide the knowledge and skills necessary to be an effective Peer Mentor who will work in the new student seminars and in the Peer Mentor Center at San Jose State University.

**Prerequisite(s):** Must apply and be accepted.

**Grading:** Graded

*UNVS 120L - Seminar for Peer Educators*

1-2 unit(s)

This seminar provides students with the skills and knowledge necessary to be an effective and empowered peer educator. Students will practice and demonstrate their understanding of the university experience in terms of academic and personal development factors.

**Prerequisite(s):** Upper division standing and consent of instructor

**Grading:** ABC-/NC Grading

*UNVS 125M - McNair Research Colloquium*



3 unit(s)

Course is designed to assist students in the SJSU McNair Scholars Program to prepare for graduate study at the doctoral level. Various faculty will lecture on topics including research methodology, research writing, protocol for presenting research results conferences, graduate school experiences and academic expectations.

**Prerequisite(s):** Students must be accepted in the SJSU McNair Scholars Program.

**Grading:** Credit/No Credit

*UNVS 180 - Indiv Studies*

1-4 unit(s)

**Grading:** Credit/No Credit

*UNVS 190 - University Internship*

1-4 unit(s)

Supervised placement in student support services for advanced students.

**Grading:** Credit/No Credit

*UNVS 195H - Interdisciplinary Research Practicum*

3 unit(s)

This practicum will integrate the methods of at least two disciplines to conduct basic and applied research. Undergraduate students will have hands-on experiences working with faculty from different disciplinary traditions in real research projects.

**Prerequisite(s):** Upper Division Standing

**Grading:** Credit/No Credit

*UNVS 199 - Orientation Leadership Studies*

3 unit(s)

This class is designed for students selected by Student Life Center to serve as SJSU Orientation Leaders. Students will learn theoretical/practical aspects of leadership, and receive training in university policies/procedures. Curriculum will apply to students' leadership experiences.

**Prerequisite(s):** Apply and be selected (fall semester), 2.0 G.P.A., upper division standing or instructor consent.

**Grading:** Graded

*UNVS 295H - Interdisciplinary Research Graduate Practicum*

3 unit(s)

This practicum will integrate the methods of at least two disciplines to conduct basic and applied research. Graduate students will have hands-on experiences working with faculty from different disciplinary traditions in real research projects.

**Prerequisite(s):** Graduate standing

**Grading:** Mandatory CR/NC/RP

*UNVS 1015D - Statway Algebra Review Activity*

1 unit(s)

Supplemental course for Statway students planning to enter a field requiring algebra or calculus, e.g., Business.

**Prerequisite(s):** UNVS 15F or instructor consent.

**Corequisite(s):** UNVS 15S.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No degree credit.

*UNVS 1015W - Statway Supplemental Activity*

1 unit(s)

Supplemental activity course for Statway students who complete UNVS 15F (Statway A) with a grade below C-. Includes review of UNVS 15F and supporting activities for UNVS 15S.

*Misc/Lab: Activity 2 hours.*

*Course may be repeated for credit for up to 3 units.*

**Corequisite(s):** UNVS 15S

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit.

*UNVS 1290R - Culminating Experience Supervision*

1 unit(s)

Continued work on thesis or project writing.

*Course may be repeated for credit for up to 20 units.*

**Prerequisite(s):** Outstanding RP grade in a preceding semester in a project or thesis class.

**Grading:** CR/NC, No Degree Credit

**Note(s):** No Degree Credit

# Athletics (Intercollegiate)

**Office:** Alan B. Simpkins Intercollegiate Athletics Administration Building (7th & Alma)

**Telephone:** 408-924-1200 (Voice); 408-924-1291 (Fax)

## Professors

Tamar Semerjian, NCAA Faculty Athletic Representative

## Athletics Staff

Joanne Bowers, Head Coach, Gymnastics  
Brent Brennan, Head Coach, Football  
Darren Coelho, Assistant Athletics Director for Ticket Operations  
Rob Clark, Deputy Director of Athletics Development  
Jamie Craighead, Head Coach, Women's Basketball  
Eileen Daley, Senior Associate Athletic Director for Academic and Student Services  
Dana Dormann, Head Coach, Women's Golf  
Lawrence Fan, Associate Athletics Director for Football Comms and Special Projects (FB & TEN)  
Lauren Hanson, Head Coach, Women's Soccer  
Beth Harberts, Head Coach, Women's Water Polo  
Sage Hopkins, Head Coach, Swimming/Diving  
John Kennaday, Head Coach, Men's Golf  
Trent Kersten, Head Coach, Beach Volleyball & Volleyball  
Ryan Jordan, Assistant Athletics Director for Compliance  
Heather Limosnero, Head Cheer Coach  
Ryan O'Rorke, Assistant Athletics Director for Marketing and Multimedia Services  
Roseanne Oty, Director of Compliance, Eligibility/Admissions  
Jean Prioleau, Head Coach, Men's Basketball  
Jeff Pritsker, Associate Athletic Director, Finance  
Mary Quintanar, Associate Athletics Director, Human Resources  
David Rasmussen, Associate Athletic Director of Compliance  
Kendra Reimer-Gonzales, Director of Track and Field and Cross Country  
Brad Sanfilippo, Head Coach, Baseball  
Blake Sasaki, Senior Associate Athletics Director for External Relations  
Scott Shaw, Director of Sports Medicine  
Chad Skorupka, Head Coach, Women's Tennis  
Simon Tobin, Head Coach, Men's Soccer  
Garrett Ton, Director of Athletics Facilities and Events  
Marie Tuite, Director of Athletics  
Peter Turner, Head Coach, Softball  
Gary Uribe, Head Coach, Athletic Performance  
Mike Waller, Sr. Associate Athletic Director, Finance and Administration  
Joe Waltasti, Assistant Athletics Director for Media Relations  
Bruce Watson, Head Coach, Men's Water Polo  
Brad Wick, Head Coach, Men and Women's Cross Country, Assistant Track and Field Coach

## Overview

Intercollegiate athletics offers a comprehensive spectrum of 17 sports (6 men's and 11 women's) which compete at the NCAA Division I level (the highest level of collegiate competition). San Jose State University is a member of the Mountain West Athletic Conference. Over the years, San Jose State athletics teams have won 10 NCAA team and 50 individual championships.

Course offerings are designed to satisfy the needs and interests of highly skilled student-athletes and provide them with the highest level of intercollegiate athletics experience. Note: Courses are open only to those SJSU students who are currently on one of the Spartan team rosters.

*ATH 2I - Men's Baseball*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's baseball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 2S - Men's Skills Development, Baseball*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's baseball. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 4I - Men's Basketball*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's basketball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 4S - Men's Skills Development, Basketball*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's basketball. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 6I - Women's Basketball*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's basketball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 6S - Women's Skills Development, Basketball*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's basketball. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 12I - Football*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate football including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 12S - Skills Development, Football*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate football. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 14I - Men's Golf*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's golf including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 14S - Men's Skills Development, Golf*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate

men's golf. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 16I - Women's Golf*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's golf including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 16S - Women's Skills Development, Golf*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's golf. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 20I - Women's Gymnastics*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's gymnastics including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 20S - Women's Skills Development, Gymnastics*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's gymnastics. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 26I - Women's Tennis*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's tennis including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 26S - Women's Skills Development, Tennis*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's tennis. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 30I - Men's Soccer*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's soccer including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 30S - Men's Skills Development, Soccer*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's soccer. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 32I - Softball*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate softball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 32S - Skills Development, Softball*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate softball. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 34I - Women's Swimming*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's swimming including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 34S - Women's Skills Development, Swimming*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's swimming. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 36I - Women's Volleyball*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's volleyball including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 36S - Women's Skills Development, Volleyball*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's volleyball. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 42I - Women's Cross Country*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's cross country including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*



**Grading:** Graded

*ATH 42S - Womens Skill's Development, Cross Country*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's cross country. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 44I - Women's Soccer*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's soccer including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 44S - Women's Skills Development, Soccer*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's soccer. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 46I - Women's Water Polo*

*1 unit(s)*

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's water polo including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 46S - Women's Skills Development, Water Polo*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's water polo. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 48I - Men's Cross Country*

1 unit(s)

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's cross country including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 48S - Men's Skills Development, Cross Country*

1 unit(s)

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's cross country. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Credit/No Credit

*ATH 50I - Women's Track & Field*

1 unit(s)

Activities include mental and physical skill development for successful participation in NCAA intercollegiate women's track & field including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 50S - Women's Skills Development, Track & Field*

1 unit(s)

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate women's track & field. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 52I - Men's Water Polo*

1 unit(s)

Activities include mental and physical skill development for successful participation in NCAA intercollegiate men's water polo including drills, assignments, film study, scrimmages and competitions not to exceed 20 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

*ATH 52S - Men's Skills Development, Water Polo*

*1 unit(s)*

Activities include sport specific fitness training and conditioning for successful participation in NCAA intercollegiate men's water polo. Approximately 8 hours per week.

*Course may be repeated for credit for up to 8 units.*

**Grading:** Graded

## **Interdisciplinary Studies, MA**

### **Overview**

The Interdisciplinary Studies master's program for either an MA or MS provides an alternative for individuals whose desired plan of study does not fit into the degree offerings of any single existing graduate degree program on campus.

More information about the program can be found on the College of Graduate Studies website at [www.sjsu.edu/cgs](http://www.sjsu.edu/cgs).

### **Admissions Requirements**

Candidates apply separately to the university to obtain approval for university-level admission and to the College of Graduate Studies for admission to the Interdisciplinary Studies program. Candidates must meet all university admission requirements. They must also satisfy programmatic requirements, including a minimum 3.25 GPA in the last 60 semester units of post-secondary academic work. In addition, they must complete a programmatic application, separate from the university application, found in the Interdisciplinary Studies Guide. In brief, the application includes the signature of a tenured or tenure-track faculty member from San Jose State who agrees to chair the master's committee of the student. Approval of the proposed curriculum, periodic advice, and supervision of the student's research and culminating report (usually a thesis) are expected of the faculty mentor. A summary of the proposed research and reasons for the appropriateness of the Interdisciplinary Studies program are also needed in advance of a positive admissions decision. Once the application is completed, it should be sent to the Associate Dean (AD) of Graduate Studies, who will make the final admissions decision.

Applicants from countries in which the official language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

### **Requirements for Advancement to Graduate Candidacy**

General university requirements for advancement to candidacy for the Interdisciplinary Studies master's degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

### **Requirements for Graduation**

#### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## **MA or MS - Interdisciplinary Studies Graduation Requirements**

The program consists of an individualized program of 30 units in classes taken from at least two different departments; a minimum of half of the units must be in graduate-level classes. Prerequisite classes must be taken in excess of the 30 unit total. The program may be Plan A (thesis), Plan B (project, but under highly restricted circumstances), or Plan C (creative project). All courses must be approved by the AD of Graduate Studies. The culminating report must be approved by the student's master's committee and by the College of Graduate Studies Associate Dean.

## **Interdisciplinary Studies, MS**

### **Overview**

The Interdisciplinary Studies master's program for either an MA or MS provides an alternative for individuals whose desired plan of study does not fit into the degree offerings of any single existing graduate degree program on campus.

More information about the program can be found on the College of Graduate Studies website at [www.sjsu.edu/cgs](http://www.sjsu.edu/cgs).

### **Admissions Requirements**

Candidates apply separately to the university to obtain approval for university-level admission and to the College of Graduate Studies for admission to the Interdisciplinary Studies program. Candidates must meet all university admission requirements. They must also satisfy programmatic requirements, including a minimum 3.25 GPA in the last 60 semester units of post-secondary academic work. In addition, they must complete a programmatic application, separate from the university application, found in the Interdisciplinary Studies Guide. In brief, the application includes the signature of a tenured or tenure-track faculty member from San Jose State who agrees to chair the master's committee of the student. Approval of the proposed curriculum, periodic advice, and supervision of the student's research and culminating report (usually a thesis) are expected of the faculty mentor. A summary of the proposed research and reasons for the appropriateness of the Interdisciplinary Studies program are also needed in advance of a positive admissions decision. Once the application is completed, it should be sent to the Associate Dean (AD) of Graduate Studies, who will make the final admissions decision.

Applicants from countries in which the official language is not English must achieve a minimum English-language proficiency test score as indicated on the Graduate Program Test Requirements webpage at GAPE.

### **Requirements for Advancement to Graduate Candidacy**

General university requirements for advancement to candidacy for the Interdisciplinary Studies master's degree are detailed in the Graduate Policies and Procedures section. Candidacy includes the successful completion of the Graduation Writing Assessment Requirement (GWAR). For graduate courses that meet the GWAR, refer to the GWAR Course List on the College of Graduate Studies website.

### **Requirements for Graduation**

#### **University Graduation Requirements**

Students must complete all residency, curriculum, unit, GPA, and culminating experience requirements as outlined in the Graduation Requirements section of the Graduate Policies and Procedures.

## **MA or MS - Interdisciplinary Studies Graduation Requirements**

The program consists of an individualized program of 30 units in classes taken from at least two different departments; a minimum of half of the units must be in graduate-level classes. Prerequisite classes must be taken in excess of the 30 unit total. The program may be Plan A (thesis), Plan B (project, but under highly restricted circumstances), or Plan C (creative project). All courses must be approved by the AD of Graduate Studies. The culminating report must be approved by the student's master's committee and by the College of Graduate Studies Associate Dean.